

Pacific
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Industry

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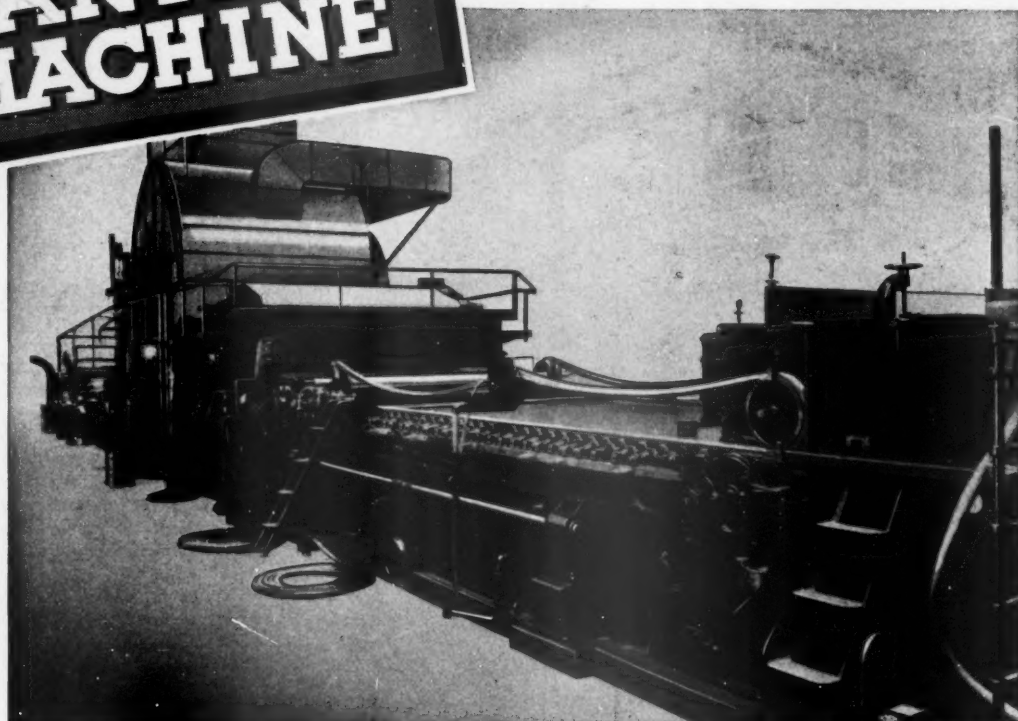
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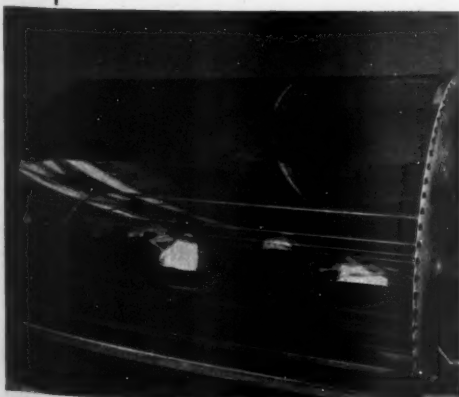
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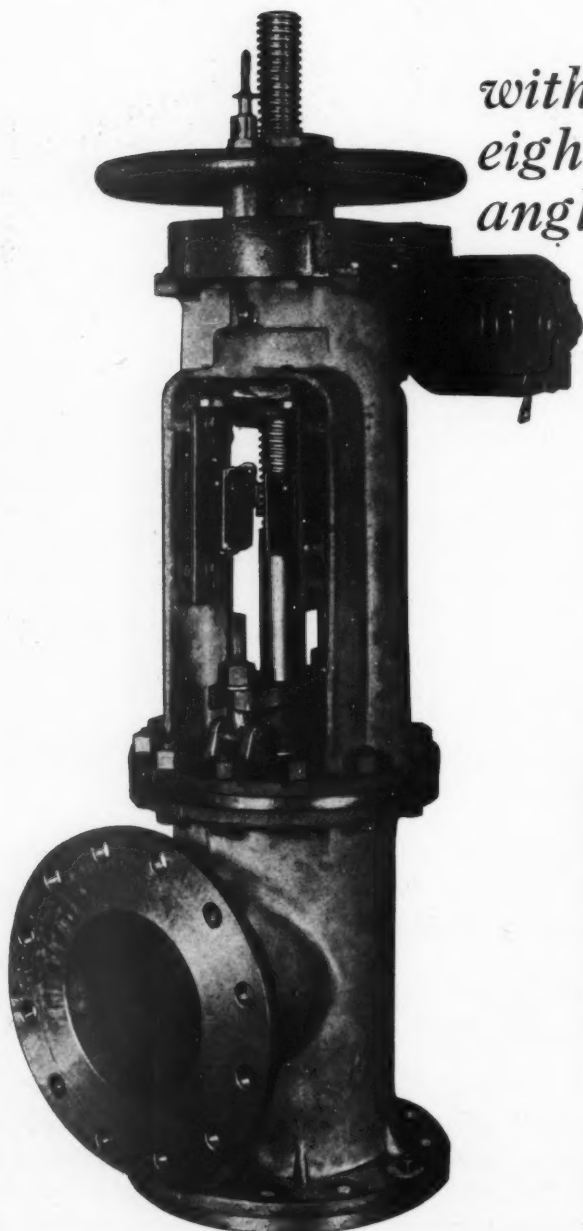
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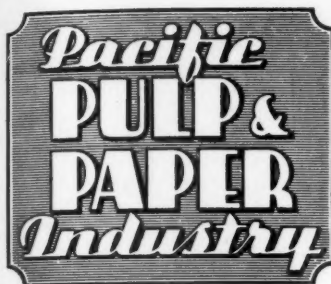
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Labor in the Pacific Coast Paper Industry—A Case in Collective Bargaining

by R. P. WOLLENBERG and E. N. COOPER*

WHEN the National Labor Relations Act (the Wagner Act) was passed, it was the opinion of competent commentators that the lack of settled techniques of collective bargaining would constitute one of the greatest obstacles to successful dealings. This observation has been more than fulfilled as can be seen in the current discussions of how to fix the bargaining units. The complexity of this problem is obvious when one considers how many possible bases for representation exist. The bargaining unit may coincide with a financial entity—the company—or it may be correlative with a producing unit. Such an issue was presented in the General Motors situation. Under the American Federation of Labor, even the plant would be subdivided into groups based upon crafts. On the other hand, the unit of bargaining can be extended to include groups of companies on either a regional or a functional basis. Whatever type of unit is finally chosen in a specific case, the organization and procedure in bargaining must be adapted to fit conditions. In this paper there is presented one method of designating the unit of bargaining with some of the specific procedures and techniques developed to meet the complexities arising from a broad basis of representation.

Since 1934 most of the paper mills of the Pacific Northwest, and subsequently some of the California mills, have been working under a form of collective bargaining referred to by its participants as "collective on both sides." Under this method the group of paper mills in this region forms the unit for dealings between the employers and the workers. Once an agreement is reached, it is recognized as valid by all the companies and their employees.

Bargaining "Collective on Both Sides"

● Although the difficulty of getting unified and cooperative effort among such a large number of men is serious, the broad advantages of being "collective on both sides" are readily apparent. This form of organization is collective in substance as well as in name, for it represents the views of all concerned in a broad industrial segment. More specifically, this system makes it likely that the employers will obtain those advantages which union advocates have long been maintaining can be offered to employers by collective bargaining. It protects the industry as a whole from the minority who try to gain competitive advantages by paying lower wages and providing poorer working conditions than those prevailing in the industry. At the same time, the more profitable plants are protected from the attempts on the part of their workers to gain better wages and conditions than can be afforded by the rest of the industry. No single plant which observes the uniform agreement will be subject to a strike against it which throws business to competitors.

That the workers think they gain from this large-scale collective bargaining, can be inferred from their many recent attempts to be represented in units larger than single plants. The use of wide units of bargaining prevents any attempts on the part of the employers to evade pressure by moving production from one plant to another, or even by moving the plants themselves. Moreover, the unions gain from mere strength of numbers. They have the assistance of the international officers at one inclusive meeting, which would not be possible if negotiations were to be carried on by each local. The importance of having experienced, cool negotiators in collective bargaining has been stressed both by labor leaders and by business men. Finally, while the workers forego the possibility of getting higher wages in the more profitable plants if bargaining was

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in plant or company units, they are protected against mills which might be in a position to force lower wages.

Before the advantages of such broad bargaining can be realized, however, it is apparent that both parties must overcome difficulties inherent in bargaining. These groups are certain to present a wider variety of problems and range of differences than smaller groups of representation. Consequently, to prevent the problems from becoming entirely unmanageable, the companies involved must present many similarities and cannot be too widespread regionally. For example, it is difficult to envision the inclusion of northern and southern textile mills in a single bargaining group.

Even with a substantial degree of homogeneity, bargaining "collective on both sides" presents unusual technical difficulties. It is inevitable that the rank and file of the workers cannot participate directly in the negotiations with the employers. Therefore, it is harder to make them understand the employers' point of view, particularly if they are asked to support a concession by the unions, the necessity for which is not present in their own place of work. How, then, can conflicting interests be reconciled? How can labor representatives make offers at the negotiating table before they know what the men will support? When an agreement is reached, the various jobs in many plants must be classified so that the provisions of the agreement can be applied. The task may well be compared to the difficulties of codification encountered in the NRA days. In short, the procedure in such bargaining compared to that in single plant bargaining is analogous to the complexities involved in a centralized representative government on a continental scale as compared to a local democratic government. Consequently, the framework designed by the paper mills of the Pacific Coast may have value in pointing the direction of successful approach to these problems.

Initial Stages of Negotiation

● Often the initial stages of negotiation prove the most troublesome to the participants, in that the unit of representation and the recognition of the representatives are determined after a struggle which leaves a feeling of bitterness and, on one side, of defeat. In this case, despite the presence of two unions, jurisdictional disputes did not arise because the two unions had had

long experience in working with each other. One, the International Brotherhood of Papermakers, is a craft union which includes men working on paper machines and in closely related operations. The other, also an American Federation of Labor union, is the International Brotherhood of Pulp, Sulphite, and Paper Mill Workers, a semi-industrial union including all other paper mill workers. A successful beginning in this instance was founded upon an immediate agreement designating a single unit of representation. Originally, the unions had approached the companies individually. Recognizing that they would almost be forced to agree to terms which the larger producers would accept, all the firms agreed that negotiation on a group basis would be wise. The representatives of the International Brotherhoods likewise saw the possibilities of group dealing. Thus, with an experienced union leadership and a wise employer attitude, this major decision was quickly and easily made.

Nor did an interunion struggle intervene. Originally designated as the representatives for their own memberships, the two unions set up machinery for joint action by forming the Pacific Coast Pulp and Paper Mill Employees Association. Each local of either union elects delegates. A few days before the annual meeting with employers the delegates of the association meet to choose from among themselves a negotiating committee and to formulate policy to guide the latter. To see how the unions have submerged their individual interests to those of the group, one need only to look at the provisions for the ratification of agreements. Only members of the two unions may vote, and ratification depends upon the acceptance of a majority of those voting, regardless of whether a majority of a local or of one of the Brotherhoods is against it. The decision is binding and is accepted by all locals.

The referendum is by no means unrepresentative of the workers, for the membership in the unions has unofficially been estimated to be be-

tween 95 per cent and 98 per cent of the eligible employees. This membership has been attained without a closed shop. In 1935 the managements agreed not to recognize any other union, and in 1936 they contracted to enforce the requirement that, as a condition of continued employment, a worker maintain membership in good standing once he has enrolled. Thus, joining the union is an irreversible step, and membership is not likely to shrink.

On their side, the mill operators formed an association, parallel to the workers' group, called the Pacific Coast Association of Pulp and Paper Manufacturers. This body likewise selected a negotiating committee, which completed the basic machinery for collective bargaining.

Development of Bargaining Procedure

● In the actual process of bargaining, several notable developments have taken place. The authority of delegates has probably been one of the most delicate problems. For three years, delegates went to the annual conference with the power to commit their locals. Last year this was changed, upon the unions' demands, to provide for the majority referendum mentioned previously. It must be remembered that a majority vote binds all locals to sign the contract, thus preventing a single union local from blocking the majority. The union men agreed, furthermore, that the decision of the majority of the delegates would bind all the delegates to sponsor the tentative agreement before their own locals. This rule enhances the probability that the tentative agreements made in the annual meetings will be approved.

The removal of the power to commit on the part of the delegates made the negotiation more difficult, for the negotiating committees could not be certain that a majority of the workers would ratify the agreement. If a tentative agreement was made in the conference, both sides making concessions, it might be rejected by the membership in the hope of gaining further conces-

In this analysis of the collective bargaining system developed by the pulp and paper industry on the Pacific Coast, the authors point out that its success, since first established in 1934, has been due in part to the system being collective on both sides and to the democratic methods employed in carrying on joint negotiations.

sions. This possibility places the employers in a difficult position. If they go as far as they possibly can in making a tentative deal, the failure of the men to ratify would mean the breakdown of relations. If the employers hold back anything in anticipation of such an occurrence, and the men reject the agreement until such further concessions are obtained, a precedent will be set for the men not to accept the first proposal, but rather to send it back for more favorable action. In an attempt to avoid this difficulty, the employers took the position that the first agreement made by the negotiating committees would be their final offer, that no possible concessions would be held back, and that negotiations would not be reopened in the event that the agreement was not ratified. Under this system the men ratified the 1937 contract by a vote of about two and one-half to one. It is greatly to the credit of the men that, although some locals voted against the agreement, one reporting a ten to one rejection, all the locals abided by the decision of the majority and signed the contract.

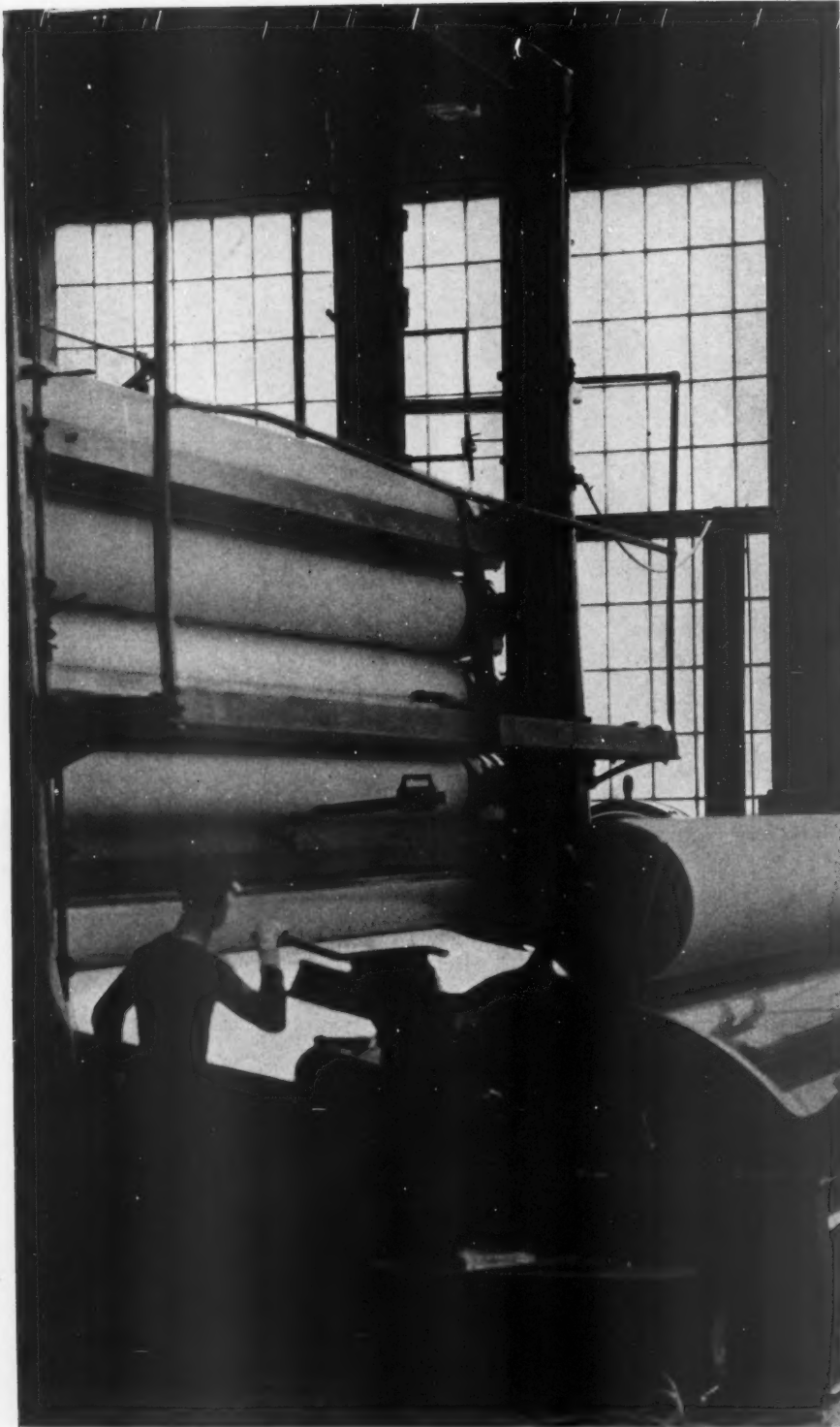
The development just described has clearly brought negotiations to a more democratic basis. Starting from the position where workers were absolutely bound by the decisions of their representatives, the machinery now provides for the expression of approval by means of a referendum among the workers. Nor has this been the only aspect of democratic evolution, for the actual process of negotiation has become more democratic. At the beginning, in 1934, the two negotiating committees held closed hearings. Having selected the negotiating committees, the delegates had little to do but "see the town" while the conference was in process. When confronted with the results which they were expected to ratify, the delegates showed reluctance in granting their consent. Having been excluded from the meetings, the delegates missed the presentation of the employers' side. Consequently, when the agreements did not meet their original demands, the delegates did not know the reason for the modifications and hence did not have complete confidence in the results.

On the other hand, to admit all the delegates to the negotiations might well make the groups too unwieldy and cause the negotiators to balk on granting the concessions which they would grant as reasonable in private discussions. In 1935

a compromise was sought through selecting some delegates as observers. This arrangement still proved inadequate, and in 1936 the annual negotiations were opened to all delegates and management representatives. To prevent hindrance to the work of the committees, only

their members were allowed to speak. Discipline was maintained by two joint chairmen, one for each side. Although drafting committees were used to reduce the accepted provisions to writing, all negotiating was done at opening hearings. The success of





this plan has been surprising. In a large room are assembled more than a hundred men, laborers and managers, all intently listening to the small group of negotiators on the platform. Not a whisper or a boo is heard. These men do not take active part, but they are learning the

employers' problems, so that they may understand why more advantageous terms are not granted. Despite the presence of such a large number of men, the actual conferees can work as efficiently as they previously did in closed conference.

Judicial Bodies

● So far we have described what might be called the legislative mechanism for this type of collective bargaining. To make the accepted "laws" applicable, to interpret and apply them, a "judicial" branch is necessary. This takes form in three bodies: the Joint Classification Committee, the Permanent Classification Committee, and the Joint Relations Board.

As pointed out previously, one great obstacle to such inclusive units of bargaining as here presented is the diversity of conditions in the various mills. The first job was to introduce a uniform classification of work for the purpose of making the agreement effective. At the first annual conference, the negotiating committees first agreed upon a uniform base rate for all unskilled labor in all the mills. In every mill the unskilled rates were to be adjusted upward by an equal amount. When these adjustments had been completed, there still would be a uniformity of pay for like work above unskilled grade in the different mills. While the upward adjustment was based on the theory that in most mills there would be similar differentials between the various grades of skill, there were actually many exceptions to this. Therefore, the first annual agreement provided for the establishment of a Joint Classification Committee, which was instructed to classify all similar jobs in the various mills and, on the basis of the initially adjusted rates for all types of work, to determine prevailing adjusted rates for the various jobs. By the agreement all the mills were to pay exactly these prevailing rates, except that there were to be no downward revisions in existing rates of pay.

For performing this function, the committee was established with joint chairmen, representing each side, and with flexible membership: that is, when the rate for any job was discussed, men who had a knowledge of the job in question were called in to serve on the committee. The instructions to the Joint Classification Committee excluded any element of collective bargaining from their function, and confined the committee to an effort to determine prevailing adjusted rates. No mathematical formulas were established to determine the rates. It was left to the committee to be fair minded and to bring in findings which were in accord with the facts. The committee was able to agree upon standard rates without extended wrangling, and the findings were

accepted by the parties to the agreement.

This method of handling a difficult problem is probably unique in the history of collective bargaining. It proved an effective technique for overcoming one of the major obstacles in group collective bargaining.

The Joint Classification Committee just described was a temporary body to establish an initial uniformity in classification of work and to set standard rates for each classification. To interpret the scope of the agreement and to modify the standards and classifications as conditions changed, there was needed a body which, though similar to the Joint Classification Committee, would function as a continuous and permanent mechanism. To meet this need, the Permanent Classification Committee was established. Unlike the first committee, this one does not include workers' representatives. Formed by the manufacturers, its status is unofficial and it is advisory to the employers.

The problems which have been solved by this group have been numerous. When new mills were added to the group in subsequent years, additional jobs had to be

classified according to their relationship to jobs already under the agreement. From time to time, questions as to interpretations of the agreements had to be decided, and it was important that uniform interpretations should exist in different companies. The committee also examined proposed rate changes to see that they did not conflict with the provisions for uniformity of rates established in the agreement. Cases of discrepancies, adjustments, and new standard rates, all constituted work for the Permanent Classification Committee.

In spite of its unilateral and unofficial character, the decisions and findings of the committee have been accepted by both sides in every case. And the number of findings has been fairly large. Copies of all findings are given to union officers. It is interesting to note that the decisions interpreting the agreement have been about two to one in favor of the employees. Such evidence is substantial indication of an impartial attitude.

Settlement of Grievances

● The mechanism provided for adjustment of complaints is de-

signed to lead to arbitration if necessary. Grievances must first be taken up with the foremen. They may be appealed to the Union Standing Committee which takes them up with the Company Standing Committee (these committees are authorized in the contract). If the committees fail to agree, the matter is taken up with the mill manager by an officer of the union local. If these two fail to agree, the matter is taken up by a higher official of the company and the international president of the union or his representative, neither of whom has judged the matter previously. It is provided that no one of these steps shall delay settlement more than five days. If the question is still unsettled, it may be referred to the Joint Relations Board of the Pulp and Paper Industry of the Pacific Coast Area, whose decision is final.

The board consists of four management representatives and four labor representatives. A decision concurred in by three on each side is the decision of the board. In the event that a decision cannot be reached, the judge of the United States District Court for the district in which the board is sitting is asked



to appoint an additional impartial member to the board. In the event that the judge refuses, request is made to the judge for the corresponding court in the nearest district. When an impartial member sits on the board, each side has one vote, and the extra member has one. Two votes decide the question.

While this right of appeal to the Joint Relations Board is an important safeguard, it has only been used once. The decision was unanimous, and no impartial member was needed. The decision was accepted by the parties to the dispute. Willingness to compromise on both sides, and an obvious mutual attempt to be fair, have prevented any disputes from reaching the board.

Summary

● The situation described is notable for the success with which bar-

gaining has been conducted both by employers and by employees, each organized in a single unit for a large number of firms. It is important to note that "collective on both sides" was agreed upon without reservation or resentment by either party.

The growth of democratic devices in the course of time has been encouraging. From carrying on negotiations in a closed session among a few selected representatives, the parties have evolved a technique whereby the negotiations are open to delegates from each union local and each firm. The delegates now submit a tentative agreement to a referendum, whereas they previously had the power to make binding agreements without a formal vote by their constituents.

In spite of the individual differences bound to arise when so many

mills and workers are involved, agreements which are binding on all members have been formulated. By the use of advisory committees which concern themselves with the classification and standardization of rates, difficulties which make a common agreement impossible have been eliminated. Through the Permanent Classification Committee, disagreements over applications of the contract to specific cases have been settled so amicably that arbitration has only been resorted to once.

With such developments of procedures and techniques for bargaining, the benefits of collective bargaining with units that are broad and inclusive become more attainable. This experience may well serve as a guide to industries anxious to learn how to make bargaining more effective and less painful.

Tom Beaune Takes Interesting Trip

● Tom Beaune, well known pulp mill superintendent of the Fibreboard Products, Incorporated, sulphite pulp and board mill at Port Angeles, Washington, accompanied by Mrs. Beaune and their daughter Merlyn, attended the meeting of the American Pulp & Paper Mill Superintendents Association in Toronto late in June.

They left Port Angeles June 9th and returned July 20th driving around 10,000 miles. Their route eastward was from Port Angeles to San Francisco, Reno and Salt Lake and through the Middle West up into Northern New York, visiting many of the places where Tom worked before he came to the Coast in 1900.

Of the Toronto convention Tom says, "It was just like ours here on the Coast only on a bigger scale and everybody was busy looking up old friends from far away. I met several of my old Northern New York friends at the meeting."

The Beaunes took in Montreal, Ottawa, Buckingham and Callander, Ontario, where they saw the Dionne quintuplets. This, Tom says, was just about the most exciting place they visited.

● On the way back home Tom saw a rayon plant and visited a number of the paper mills around Kalamazoo.

Tom Beaune, it will be recalled, was honored by the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association at their meeting in Seattle last December as the superintendent with the longest record of service in the Pacific Coast industry. He arrived at Floriston, California, on March 10th, 1900, to complete the sulphite pulp and paper mill and to start it up. At that time he was with the Stebbins Engineering & Manufacturing Company, who had charge of placing the mill in operation. Since that day Tom Beaune has served as superintendent at Oregon City, Camas, Warrendale, Ocean Falls and at Port Angeles where he has been since 1920.

Frank Haar Completes 26 Years at Woodfibre

● Frank Haar, digester foreman at the Woodfibre bleached sulphite pulp mill of the British Columbia Pulp & Paper Company, is a real Woodfibre pioneer for he arrived while the mill was under construction and has remained there since.

On July 27th, 1912, Frank got off the boat at Woodfibre on upper Howe Sound after a long trip from Germany. Four other men came over with him from the Fullnerwerk plant in Bad Warmbrunn-Schleisien, Germany, to install the equipment in the new mill. Most of the machinery was of German manufacture including the digesters which were erected in Germany, dismantled, shipped and re-erected in Woodfibre. Frank Haar was with Fullnerwerk eleven

years before coming to British Columbia.

With his four companions Frank hand riveted the digesters and erected the fourdrinier pulp drying machine. He stayed and brought his family over from Germany but the other four men went home when the mill was completed.

As he started his twenty-seventh year at Woodfibre Frank Haar was busy installing stainless steel coils in the digesters he hand riveted twenty-six years ago.

Spaulding Begins Installation of Dryers

● The work of revamping the drying machine and putting in new dryers at the Newberg, Ore., plant of the Spaulding Pulp & Paper Co., long contemplated, has been started, and the modernized machine should be in operation again about September 1.

The old machine had 17 rolls, 16 of which will be used in the new set-up. There are to be 52 new rolls installed, making a total of 68. This machine will then handle the entire output of about 80 tons per day, turning out 100 per cent sheet pulp.

West Produces High Percentage of Frozen Foods

● The growth of the frozen foods industry is benefitting the paper industry through the use of paper and board for packaging. The western part of the country pioneered the frozen foods industry and now produces the largest quantities of any one region.

In 1937 Washington, Oregon, California, Colorado and Utah produced 41 per cent of all the frozen fruits put up in the United States, which totaled 181,000,000 pounds. Washington and Oregon in 1937 produced 32.7 per cent of all the frozen vegetables packed in the country which totaled 58,000,000 pounds.



FRANK HAAR
26 Years at Woodfibre

TAPPI Announces 1938-1939 Program of Dinner Meetings

Pacific Section of TAPPI to give annual award of \$50 for best paper by a mill man—Named The Shibley Award in memory of the late Kenneth Shibley

● The Pacific Section of TAPPI plans an active 1938-1939 Fall, Winter and Spring program with seven dinner meetings scheduled. This program was prepared by N. W. Coster, chairman, and William T. Webster, vice-chairman in charge of programs and was approved by the officers and the executive committee at a meeting in Olympia, Washington, July 27th.

The dinner meeting schedule, running from October through May, is intended to provide an opportunity for the largest possible number of Pacific Northwest mill men to attend and benefit from the programs. In this aim the 1938-1939 dinner meeting program follows closely the program system in operation for the past several years which has proved so successful from the standpoint of attendance.

Originally planned to give the younger men in the mills a chance to obtain the educational benefits of the papers given at the dinners with a minimum of time and travel, the dinner meetings have not only succeeded in achieving this purpose but have likewise attracted a large number of the more experienced

men in the industry. In the past several years the attendance records of the dinner meetings have shown that a number of operating men are finding it worthwhile to attend most of the dinner meetings, even though considerable traveling is necessary.

Chairman Cotser and vice-chairman Webster plan to balance the dinner meeting programs with both technical and general papers. Both may be on the same program or one meeting may be entirely technical and the next of a general nature. The general subjects to be discussed will include safety, industrial relations, social security, unemployment insurance and kindred problems.

The program for the October 4th dinner meeting in Portland will be published in the September number of this journal.

The Shibley Award

● Shortly before his untimely death in May of last year, Kenneth Shibley, an active member of TAPPI, suggested that the Pacific Section offer an annual cash prize for the best paper presented before a meeting of the Pacific Section

each year. This idea has been thoroughly discussed and was approved by the officers and executive committee. The official announcement reads as follows:

● "In order to encourage the men in the industry to present papers at the TAPPI dinner meetings during the coming winter, the Pacific Section of TAPPI has decided to offer a prize of \$50.00 for the best paper presented during the winter 1938-39 by men actively working in pulp and paper mills in this territory. Men who have not presented papers before the section are particularly urged to take part in this contest.

"This idea was first suggested by the late Kenneth Shibley. The award will be known as The Shibley Award.

"All papers must be submitted to the Vice Chairman of the Pacific Section in quadruplicate and will be judged by the officers and executive committee of the Pacific Coast Section on the following points:

"1. The amount of interest shown at the meeting where the paper is presented.

"2. Presentation.

"3. Technical value.

"Papers should be in the hands of the vice-chairman at the earliest possible date in order that the program for the various meetings may be arranged to the best advantage. Judges will reserve the right to select the papers to be presented from those submitted.

"Papers may be on any subject dealing with some phase of the pulp and paper industry. Engineering subjects will be particularly welcome as well as papers dealing with chemical subjects."

Camas Union Holds Picnic

● Paper mill union men at the Camas mill of the Crown Zellerbach Corporation held their annual picnic at Lewis River Park on Sunday, August 7.

V. A. Davis was in charge of all arrangements for the big event.

TAPPI Meetings for 1938-1939

October 4th.....	Portland
November 8th.....	Everett
January 10th.....	Port Angeles
February 7th.....	Tacoma
March 7th.....	Camas
April 4th.....	Seattle
May 2nd.....	Vancouver, B. C.
June (Annual Meeting. Date to be set later).	

Pacific Coast Box Makers Meet at Del Monte

William J. O'Donnell Elected
President at Twenty-Fourth Meeting

ONCE more the Pacific Coast Paper Box Manufacturers Association has gathered in annual convention.

This year's meeting was the 24th meeting of this trade body which is made up of western manufacturers, from Seattle to Los Angeles, of folding and setup paper boxes.

Handling the gavel was Fred C. Kewell, president for 1937-38. Mr. Kewell, who is president of the Western Paper Box Company, Oakland, said the meeting was optimistic and that delegates expressed the belief that business would be very good this fall.

The convention was held at Del Monte July 10, 11 and 12 and attendance was the second best of all the many similar meetings held in the past. There were more ladies present than ever before.

● Representatives were there from almost all districts and they predicted a banner gathering in 1939 when it is likely the meeting will be held in San Francisco and

box makers will journey there to attend the meeting and also take in the Golden Gate International Exposition on Treasure Island.

As usual, the convention program was made up of association meetings, golf, cocktail parties, a "pari-mutuel" on the golf players, ladies' putting contest and bridge and, capping the program, the convention banquet.

At the end of the meeting, President Kewell turned the gavel over to William J. O'Donnell, San Francisco, Fleishhacker Paper Box Co., who was elected to his second term as president. Back in the early days of the association, Mr. O'Donnell was president, as was Fred W. Kewell, father of the retiring president.

Convention chairman was Willis H. Thomas, San Francisco, Fibreboard Products, Inc. Convention secretary was Hugh Peat, San Francisco, who is secretary of the association. Mr. Peat's illness on the last day of the meeting brought expressions of sympathy from all the delegates.

Absent from the meeting was Oscar Bergland, Seattle, the vice-president of the body. Mr. Bergland was ill but sent a wire saying he'd be in California at the meeting in '39.

● Both national trade bodies in the paper box field were there. The National Paper Box Manufacturers Association was represented by Allen K. Schleicher, St. Louis box manufacturer. A. E. Murphy, New York, business manager of the Folding Paper Box Association of America, attended.

C. S. Rutherford, Fibreboard Products, Incorporated, was reelected member from the Pacific Coast body on the board of directors of the Folding Paper Box Association.

Convention Chairman Thomas had a varied program to occupy the three business sessions. The roll call came Monday morning, July 11, and was followed by the address of welcome by President Kewell and the report of Secretary Peat.



At Del Monte, California, the PACIFIC COAST PAPER BOX MANUFACTURERS ASSOCIATION held its twenty-fourth meeting July 10, 11 and 12th.

Speakers

● J. C. Meyerstein, San Francisco, long attorney for the paper box association, delivered the first talk, "Economic Platitudes." Then there was a sound movie, illustrating the progress made in packaging since the days of the country store and the cracker barrel.

Mr. Murphy of the national folding box association, talked on "Problems of Industry Growth" and predicted business would be better soon.

On Tuesday President Schleicher of the National Paper Box Manufacturers Association talked on "Industrial Relations" and said management will have to give more attention to direct relations with employees.

"Industrial management is meeting a challenge, which is also a great opportunity," he declared. "Grasp this opportunity to learn lessons now clearly apparent in our relations with employees and we will achieve a goal now beyond our fondest dream."

Dr. Paul F. Cadman, San Francisco, American Research Foundation, talked on "Has Business a Right to Be Heard?" and he declared that business did have a right to be heard but had not been heard much in the past because business has paid so little attention to public opinion. He asserted business has to give more consideration to the thoughts and feelings of the public.

● The next two speakers were R. E. Kimball, San Francisco, Pacific Coast representative of Stevenson,

Jordan and Harrison, and E. J. Farina, San Francisco, newly-elected vice president in charge of sales of Fibreboard Products. Stevenson, Jordan & Harrison act as business managers for the Los Angeles and San Francisco box associations.

Wednesday's speakers were Cort Majors, Los Angeles, Fibreboard Products, Inc.; Fred W. Kewell, Oakland, Western Paper Box Co., L. M. Simpson, Los Angeles, Pioneer-Flintkote Co., and Charels Ruble, Los Angeles, Standard Paper Box Corp.

Mr. Kewell talked on "Our Association" and he declared no member of any industry could afford to refrain from joining his trade body.

"Association members receive their benefits in direct proportion to their individual contribution," he declared. "The objects of a trade association are to further the members' interests, wherever they are located."

● The highlights of the entertainment program was the banquet given by the officers of the association aboard their new command, the good ship "Sufass." The banquet room was made up like a ship and the delegates were represented as attending a dinner by the vessel's officers. All wore nautical costumes.

C. D. Allen, Oakland, Western Paper Box Co., was chairman of the entertainment committee in charge of this feature.

The name of the ship, "Sufass" was made up by combining the initials of the words "Set Up and Folding Association."

New Officers

● In addition to President O'Donnell, the convention chose the following officers:

T. B. Seebaldt, vice president. Mr. Seebaldt is with the Hersee Company, Los Angeles.

James O'Reilly, treasurer. Mr. O'Reilly is with the Standard Carton Company, Tacoma.

Three members of the executive committee for the folding box division were chosen as follows:

J. L. Norie, The Coast Carton Company, Seattle; R. O. Comstock, San Francisco, Charles J. Schmitt Company, and W. H. Kewell, Los Angeles, Los Angeles Paper Box Factory.

The executive committee for the setup division follows:

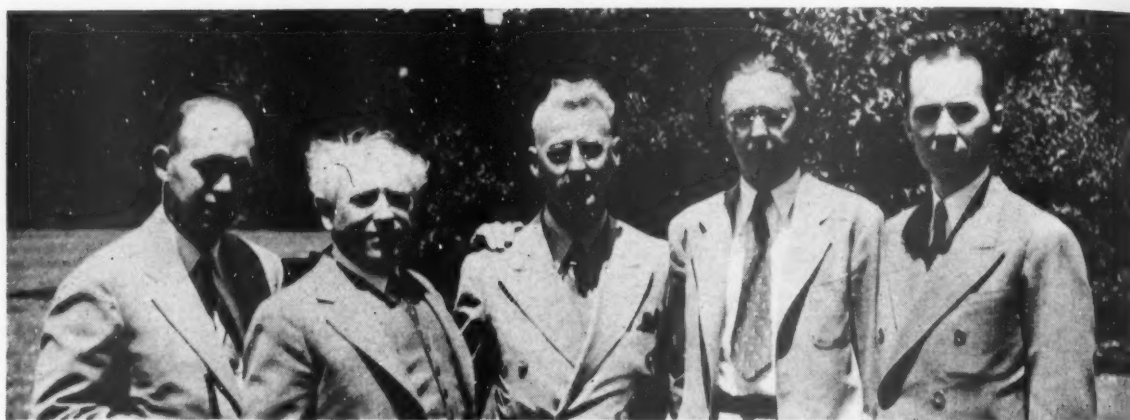
Charles Ruble, Los Angeles, Standard Paper Box Company; A. L. Schooley, San Francisco, Acme Paper Box Company, and J. W. Scully, Seattle, Puget Sound Paper Box Company.

● Those registered for the convention sessions: Frank C. Stratford, Zellerbach Paper Co., San Francisco; S. F. Barthelme, National Adhesives Corp., San Francisco; Jos. C. O'Reilly, Standard Carton Co., Tacoma; R. Schmidt, Schmidt Lithograph Co., San Francisco; R. O. Comstock, Charles J. Schmitt Co., San Francisco; S. Platt, United Paper Box Co., San Francisco; Charles Minsky, Acme Paper Box Co., San Francisco; T. B. Seebaldt, Hersee Co., Los Angeles.

● A. E. Carlson, Pioneer-Flintkote Co., Los Angeles; William J. O'Donnell, Fleishacker Paper Box Co., San Francisco; J. L. Norie, Coast Carton Co., Seattle; Cliff Mattos, California Ink Co., San Francisco; George F. Frank, Independent Paper Box Co., Los Angeles;



The attendance was the second largest of the twenty-four meetings. WILLIAM J. O'DONNELL was elected president succeeding FRED C. KEWELL.



OFFICERS AT DEL MONTE Left to right: **JOSEPH O'REILLY** of the Standard Carton Company, Tacoma, Treasurer; **WILLIAM J. O'DONNELL** of the Fleishacker Paper Box Company, San Francisco, President for 1938-1939; **T. B. SEEBALDT** of the Hersee Company, Los Angeles, Vice-President; **ALLEN SCHLEICHER** of St. Louis, President of the National Paper Box Manufacturers Association; and, **FRED C. KEWELL** of the Western Paper Box Company, Oakland, retiring president.

Roy E. Wullins, Independent Paper Box Co., Los Angeles; L. A. Thiebaut, Raisin & Thiebaut, San Francisco.

● James H. Walker, Pacific Straw Paper & Board Co., Longview, Wash.; Jos Meyerstein, San Francisco; Charles Ruble, Standard Paper Box Co., Los Angeles; Clarence Kerr, Hollywood Paper Box Co., Los Angeles; H. A. Campbell, Fibreboard Products, Inc., San Francisco; W. H. Thomas, Fibreboard Products, Inc., San Francisco; Fred W. Kewell, Western Paper Box Co., Oakland; M. Waxman, National Adhesives Corp., San Francisco; Hoadley Johnson, National Adhesives Corp., San Francisco.

● Murray G. Brown, Fibreboard Products, Inc., Los Angeles; C. H. Johnson, Zellerbach Paper Co., Los Angeles; Sumner Caldwell, Zellerbach Paper Co., San Francisco; F. M. O'Leary, Eureka

Paper Box Co., Los Angeles; Troy L. Carey, Fibreboard Products, Inc., Seattle; G. A. Trost, Fleishacker Paper Box Co., San Francisco.

● Fred C. Kewell, Western Paper Box Co., Oakland; Fred W. Bloch, Stein, Hall & Co., Inc., San Francisco; William H. Kewell, Los Angeles Paper Box Factory, Los Angeles; E. L. Naylor, Los Angeles Paper Box Factory, Los Angeles; Cliff Allen, Western Paper Box Co., Oakland; O. C. Majors, Fibreboard Products, Inc., Los Angeles.

● E. J. Farina, Fibreboard Products, Inc., Los Angeles; Allen K. Schleicher, president, National Paper Box Mfrs. Ass'n., St. Louis; R. E. Kimball, W. H. Worth, A. E. Murphy and J. E. Cox of Stevenson, Jordan & Harrison, New York.

scores for 18 holes were posted daily and awards went to the flight winners.

These scores were:

July 10	
First flight: Bob Kimball	66
Second flight: O. C. Majors	71
Third flight (tie): R. O. Comstock	71
J. A. Thiebaut	71
Fourth flight: Geo Franck	71
July 11	
First flight: Walter Schulken	71
Second flight: W. F. Davis	68
Third flight: W. F. Fricker	69
Fourth flight: H. H. Worth	69
July 12	
First flight: C. B. Kerr	69
Second flight: Gus Trost	77
Third flight: Sam Platt	73
Fourth flight: J. E. Cox	73

● There were blind bogeys on each day and daily prizes for each. Dick Schmidt won the first day with a score of 77; W. H. Huelat and A. E. Carlson tied for the second day with 78 and Allen K. Schleicher, the president of the National Paper Box Manufacturers Association, won the third day with 77.



Among the mill representatives present at Del Monte were **JIM WALKER** of the Pacific Straw Paper & Board Co., Longview and, on the right, **J. AUBREY SWEET**, the company's California representative.

Kimball Wins Tournament

● Bob Kimball, San Francisco, Pacific Coast representative of Stevenson, Jordan & Harrison, this year played for the second time in a Pacific Coast Paper Box Manufacturers Association convention golf tournament at Del Monte. Last year he turned in a low net of 222 but at this convention he cut his score down to 207 and won the first flight and the association's silver challenge trophy.

Second in the first flight was Clarence B. Kerr of the Hollywood Paper Box Company, Los Angeles, who won the overall last year with a low net of 195 for the 54 holes when he was in the third flight. This year they put him up into No. 1

flight but it didn't help his game as he carded but 218.

Other flight winners were:

Second Flight	
O. C. Majors	216
W. F. Lewis	223
Third Flight	
R. O. Comstock	217
W. H. Fricker	218
Fourth Flight	
Bud Worth	224
J. E. Cox	224

● Winner of the ladies' putting contest at the Del Monte meeting was Mrs. Hugh Peat, wife of the secretary of the association.

Most everybody entered in the tournament got a prize. Low net

In the blind bogey, players draw numbers between 60 and 70. Then each picks his own handicap to help him make this score. The winners are the players coming closest to their bogey scores.

Golf prizes came from a fund made up by contributions from the following companies: Harry W. Brintnall Company, San Francisco; California Ink Company, San Fran-

cisco; Fibreboard Products, Incorporated, San Francisco; Fleishhacker Paper Box Company, San Francisco; Charles Kass, San Francisco, representing the Hampden Glazed Paper Company, New York; Nashua Gummed & Coated Paper Company, San Francisco; George H. Morrill Company, San Francisco; National Adhesives Corporation, San Francisco; Pacific Straw

Paper & Board Company, Longview; Samuel R. Parry Machine Company, Rochester, N. Y.; John T. Robinson Company, Hyde Park, Massachusetts; Pioneer-Flintkote Company, Los Angeles; Schmidt Lithograph Company, San Francisco; Standard Paper Box Corporation, Los Angeles; International Printing Ink Company, San Francisco, and C. Schuch, Philadelphia.

Conference Discusses Industrial Relations Problems

Men from Rayonier Incorporated and Crown Zellerbach mills meet at Columbia Gorge to discuss safety, workmen's compensation, social security group insurance and other problems

● The Rayonier Incorporated and the Crown Zellerbach groups held a conference at the Columbia Gorge Hotel, Hood River, Oregon, on July 20 to 23, inclusive.

A. R. Heron, director of industrial relations for both groups, presided and presented subjects relating to workmen's compensation insurance, safety and accident prevention, group accident, health and life insurance, state and employees medical contracts, unemployment compensation insurance and labor agreements, all as pertaining to management and executive policies.

Divisions participating in the conference were the Grays Harbor, Shelton and Port Angeles divisions of Rayonier Incorporated, and the following divisions of the Crown Zellerbach Corporation—Washington Pulp and Paper at Port Angeles, National Paper Products at Port Townsend, and Crown Willamette divisions at Camas, West Linn, Lebanon, Siltcoos, Seaside and Cathlamet.

Executives attending the conference included J. D. Zellerbach, executive vice president, Albert Bankus, vice president, and Frank N. Youngman, assistant vice president. Members of staff included O. R. Hartwig, Arthur Peck, P. D. Duignan, Miles Murray and M. L. Mammen.

● J. E. Hanny, manager of the Camas mill, gave a talk at the Wednesday noon luncheon, explaining the managers' viewpoint on present methods of operation. J. D. Zellerbach and Albert Bankus spoke at Saturday's luncheon on the company's present day policy.

Groups attending included general superintendents, foremen, subforemen, office managers, and personnel and safety supervisors. Forty-five individuals were present for the four-day period.

Ben Natwick Joins Celotex

● Ben Natwick, son of A. G. "Buff" Natwick, assistant mill manager of the Crown Willamette division of Crown Zellerbach Corporation at Camas, Washington, left August 3 for Chicago, Illinois, where he has joined the research department of the Celotex Corporation. He graduated from the University of Washington last March.

Harry Clark Makes Hole-In-One

● The fall tournament of the Crown Willamette Golf Association at Camas, Wash., was started at the Orchard Hill Golf Club the first week in August. The tourney was entered by 64 of the mill men.

Harry S. "Chief" Clark, steam plant engineer at Camas, made a hole-in-one on the Orchard Hills course on August 4, becoming the only member of the mill's foremen's club to hold such an honor.

Paper Production Ratio Jumps

● The weekly production ratio report of the American Paper & Pulp Association covering the ratio of operations to capacity in the United States paper industry, took a big jump for the week ending July 16th and maintained the gain in the following week ending July 23rd.

From an average for the first twenty-nine weeks of the year of 67.7 per cent of capacity the percentage went up to 75.9 per cent for the week ending July 16th. For the week ending July 23rd the ratio dropped to 75.4 per cent.

The July 16th ratio of 75.9 per cent was 11.7 per cent under the 87.6 per cent of the comparable week in 1937. and the week ending July 23rd with 75.4 per cent was 10.5 per cent under the 85.9 per cent of the same week in 1937.

This improvement in paper manufacturing is now beginning to be felt by the wood pulp producers on the Pacific Coast whose Middle Western and Atlantic seaboard customers are starting to order larger shipments, and those who have not been buying are now coming into the market.

Pulp inventories are slowly declining but have apparently reached a point with some converting mills where they feel justified in buying additional pulp. Producing pulp mill inventories are still large, taking the industry as a whole, but are gradually declining to a figure considered normal. In some cases producing mill inventories are nearly exhausted and new orders cannot be shipped from the inadequate stocks.

Westminster Offers Common Stock

● Westminster Paper Company, manufacturing paper specialties, tissue papers, fruit wraps, etc., at New Westminster, is seeking greater public participation in ownership of its common stock, and for that reason 17,701 shares of the company, already issued and not representing new stock, were offered by two Vancouver financial houses.

When the offering was made, the company gave out some new data bearing on its financial position. The statement showed that there had been a substantial increase in earnings in the second half of 1937, with net profits for the six months amounting to \$23,130 after deducting depreciation, depletion, debenture interest and tax allowance. This was in comparison with \$29,865 for the full year ending July 31, 1937.

It is pointed out that in October, 1932, the common stock was placed on a dividend basis of 40 cents a year—a rate which was maintained without interruption with an increase to a 50-cent annual basis with the semi-annual payment made on April 1 last.

The original issue of \$300,000 in 6½ first mortgage debentures due in 1950 has been reduced to \$204,500. Of the latter amount \$74,500 was held in sinking fund at January 31, 1938, plus \$5,472 in cash, reducing the net debenture debt to \$124,500.

In the past five and a half years \$122,000 has been spent on plant additions and improvements.

The working capital has been maintained, being reported at \$122,264 at January 31, 1938, compared with \$109,118 at July 31, 1933.

The ability of the company to retire debentures from depreciation reserve and at the same time provide funds for plant extension is taken as an indication that the company can adhere to a fairly generous dividend policy. Of the 50,000 common shares, \$10 par authorized, there are 47,789 outstanding.

An affiliate of Westminster Paper Company is Pacific Coast Paper Mills, operating in Bellingham, Washington.

Operations of the New Westminster mill are at present on a 24-hour basis. Capacity production is 10,000 tons annually.

President J. J. Herb is a pioneer of the pulp and paper industry, having been in it for half a century. Before coming to the Northwest he was in Wisconsin and Ontario mills, being mill manager of the Interlake Tissue Mills at Thorold, Ontario, for twelve years. E. M. Herb is vice-president and general manager.

For the six months ended January 31, 1938, sales, less discounts and allowances, amounted to \$482,347. The corresponding figure for the full year ended July 31, 1937, was \$822,830. After deducting \$365,689 for cost of sales, gross profits for the half year period were \$116,658 against \$194,768 in the full year previous.

Columbia River Has Minor Fire

● Fire broke out in the chipper room of the Columbia River Paper Mills, Vancouver, Washington, on August 6, but was brought under control after burning part of the sawmill structure and the dock under it. The remainder of the property was not damaged. Loss was estimated at about \$2,000.

Powell River to Resume Pulp Making

● Powell River Company was scheduled to resume operation on a five-day week basis August 8 after a two weeks' shutdown during which extensive changes were made in the sawmill.

A new band saw edger, product of Filer & Stowell, was installed to replace the standard type edger that has done service for some years.

It was the intention of the company to bring the Kamyrr machine into production again, too. Stocks of pulp at Powell River have run pretty low as a result of prolonged inactivity of the Kamyrr, installed last year to enable the company to make a departure into the pulp business for the first time.

Conversion of most of the other pulp mills in British Columbia into bleached sulphite producers, persuaded the Powell River Company to make this change in policy. Several shipments were made to England, the United States and Japan prior to the market collapse. Indications now are that demand is picking up sufficiently to warrant resumption of operation.

Brown Paper Goods Consolidating Operations in Los Angeles

● The Brown Paper Company of California will consolidate its production operations in Los Angeles at 2900 East 11th Street, according to an announcement by Mr. C. E. Digby, secretary-treasurer and general manager of the company. The Oakland plant facilities will be moved south and a new bag machine and a new napkin machine added to the combined equipment. Warehouse and sales offices will be maintained in San Francisco.

The new location will provide 22,000 square feet floor space. The Los Angeles headquarters are at present at 3049 E. 12th Street. It is expected that the new plant will be in operation September 20.

Glassine bags, paper napkins and cocktail napkins are the main lines of goods manufactured by the company. The manufacture of cocktail napkins was pioneered by them in the west.

The purpose of the move is to take advantage of the savings in efficiency and economy coming from the consolidation of the entire manufacturing department under one roof.

Digby Plays Golf Too Hard

Chas E. Digby while making a vigorous drive on the golf links recently dislocated his knee joint and has since been getting about with considerable difficulty.

Two Weyerhaeuser Men Marry

● Two more staff members of the Pulp Division, Weyerhaeuser Timber Company have recently joined the ranks of newlyweds.

Howard McCutcheon, tester in the laboratory, has announced his marriage to Eleanor Barnes, who formerly was employed by the Weyerhaeuser lumber division.

Tom Robinson, who works on mill instrumentation, is another benedict, having been married on August 6 to Alice Prentiss.

"Dad" Wood Living In Pumpkin Center

● A. D. "Dad" Wood, who is supervising sulphite pulp production for the Crown Zellerbach Corporation at the Camas mill, now has the distinction of living in Pumpkin Center, Wash., believe it or not. Reports are that Dad has the biggest house in town, is now a regular country gentleman and is a big shot in Pumpkin Center. His friends may write him at this address, although frequency of mail delivery is not guaranteed.

His place adjoins the farm of J. E. Hanny, Camas mill manager, it is understood. There are plenty of apples on the Hanny estate, and Dad's associates at the mill are expecting him to show his skill at the ancient art of cider making.

Weyerhaeuser Installing Turbine at Longview

● A 750 k.w. Westinghouse turbine generator is being installed by the Pulp Division Weyerhaeuser Timber Company at the Longview mill. This will provide additional power for the plant by using the steam from the power plant before it goes into the vacuum dryer. Heat and pressure of the steam will be reduced in the turbine, making the use of a desuperheater unnecessary. Steam to the turbine will be at 135 lbs., which will be reduced to the 35 lbs. required for the dryer, thus converting the extra heat to electrical energy without waste.

Pomona Installing Ross Hood

● The California Fruit Wrapping Mills at Pomona, California, is installing a new hood on its Fourdrinier DM-2 machine which will cover the entire machine. It is manufactured by the Ross Engineering Company of Portland, Oregon.

Weyerhaeuser Golfers Fighting It Out

● The Weyerhaeuser Timber Company golfers are competing in a tournament at Longview, between teams of the various departments of the operation. Six teams are entered in the tourney, each team playing each of the others twice, once at the Longview Country Club and once on the Coweeman golf course.

Teams are entered from the pulp division, the main timber office, the timber loading sheds, the cargo dock, mill maintenance, and the woods end.

George McGregor, general superintendent of the pulp division, heads his team. At the time of the last match August 9, they were in fourth place.

Supply Company Offers New Burr Jig

● The Pacific Coast Supply Company has brought out a new burr jig bearing that is no more expensive than the older type, but lasts longer and gives better results. Its big advantage is in that it has no play in the bearing and gives a perfect impression of the burr on the stone, which should result in longer stone life and better quality pulp. It uses a self-aligning bearing which permits taking up for wear.

The new device is being manufactured in Portland by the Pacific Coast Supply Co.

Bleached Sulphite Paper From Douglas Fir

Mimeo bond paper made from 100% Douglas fir
sulphite pulp at the U. S. Forest Products
Laboratory, Madison, Wisconsin

THE sheet upon which this is printed was made from Douglas fir at the U. S. Forest Products Laboratory, Madison, Wisconsin, in connection with pulping studies carried on cooperatively with the Pacific Northwest Forest Experiment Station of the U. S. Forest Service, Portland, Oregon.


It is not only an example of white paper made from this species, but it also demonstrates the use of an exceptionally long-fibered wood in the manufacture of paper requiring a large percentage of short or fine fibers.

The pulp was made with ordinary lime-base sulphite liquor containing relatively large proportion of free sulphur dioxide, and employing a rather long cooking time, low maximum temperature and slow rate of temperature rise.

The pulp was bleached by a three-stage chlorine, alkali extraction and hypochlorite bleaching operation which resulted in a pulp of satisfactory color and capacity.

Very short chips were used to obtain the desired formation and at the same time retain the required bulk, opacity and oil penetration which would otherwise be destroyed by wet processing.

The development is of particular interest in view of the large supply of Douglas fir waste available.



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Stainless Alloy Welded Plate and Castings in Corrosion Resisting Pressure Equipment

by RANDOLPH SIMPSON*

IN presenting a paper of this nature one should perhaps go back for a few years to acquaint his listeners with some of the reasons for the development of a branch of welding which is rapidly becoming a very exact science.

For many years preceding the great war metallurgists of at least three great countries, namely: Germany, England and our own United States, were working with might and main to present to the world a steel or steels which would aid in counteracting one of the world's greatest evils — the corrosion of steels. It has been estimated that this evil was costing the world upwards of a billion dollars a year. At the outbreak of the war, scientists of the three countries mentioned, through separate endeavor, had reached nearly the same conclusion; that is, that steel with high chromium content, twelve per cent and better, would, under certain conditions, resist the corrosive action of the atmosphere, fruit acids and nitric acid. In England and the United States, at least, this new steel was called stainless. Experiments along the same lines were continued during the war, and shortly after peace came a new steel was brought out which contained not only high percentages of chromium, but also large quantities of nickel. This latter steel was non-magnetic, while the straight chromium steel was magnetic.

Metallurgically speaking we call the steels austenitic and ferritic stainless steels. It was not until shortly before the depression that the use of the austenitic stainless steels assumed any great proportions in the United States, but since that time each succeeding year has seen larger and larger amounts being made and sold, not only in rolled, but in cast forms. Perhaps it should be mentioned at this time that among the first austenitic stain-

less steels in use in the United States was the so-called 18-8 steel; and while there have been a number of variations of this combination of chromium and nickel to suit the different conditions which have arisen, the 18-8 seems to be the most popular generally, but because of more corrosive conditions existing in some industries it was found that other combinations of these two elements, with the addition of some special element, had to be used to obtain maximum corrosion resistance.

Industry, finally awakened to the fact that a steel was at last available, the use of which would materially aid, if not entirely whip, some of its most vexatious corrosive problems, began calling for this steel in all kinds of difficult cast and fabricated plate forms; hence our welded structures and the call for a paper of this nature before this Western Metal Congress.

● It may be stated quite emphatically, especially for the benefit of those who know little about this steel, that it lends itself very readily to welding. For very thin gauge plate acetylene welding is quite extensively used. In this kind of welding the flame should be held as close to neutral as possible, slightly on the reducing side. Every caution should be exercised to protect the molten metal from oxidation and the absorption of carbon into the weld. The under side of the weld is usually protected with a flux, and great care is taken to prevent warpage and buckling by the proper use of clamps. Puddling should not be resorted to, and welding done as rapidly as possible. Filler rods should be of such analyses as to deposit metal of approximately the same analysis as the material being welded.

Electrical resistance welding, under which general heading comes spot and seam, together with flash welding, is used to some extent with the stainless steels. Shops equipped for spot welding mild steels may

use the same equipment for stainless steels using less time and heat.

Some years ago it was discovered that if hydrogen was heated to a sufficiently high temperature it was broken down to its atomic state; high local temperatures could be obtained when these atoms combined again upon cooling. This discovery led to the method known today as atomic hydrogen welding. To weld by this method a stream of hydrogen is directed through an arc maintained between two small tungsten electrodes; the molecular hydrogen is dissociated into atomic hydrogen with a consequent large absorption of heat. The stream of gas is directed at the spot to be welded. By the time the stream of gas reaches the metal to be welded it has again reverted to the molecular state, giving up the absorbed heat to the metal with which it comes in contact. The metal fuses and welds together aided by the burning of the hydrogen which, of course, generates more heat. In this process there is an entire lack of either oxidation or carburization with a consequent smooth even weld when properly done.

Since perhaps the bulk of all stainless steel welding is done by the electric arc method, and since the company I have the honor to represent deals with that method almost exclusively in their cast and fabricated stainless steel products, this paper will be devoted to that phase of welding. While my company casts and fabricates many different types of both ferritic and austenitic stainless steels, the paper will be confined to the latter steel, since most of our work falls into that category. The steels discussed will be the 18-8, 18-8S, 18-8-3Mo and 18-8S-3Mo. For the benefit of those who are not perhaps familiar with these symbols, let me explain that 18-8 means eighteen per cent chromium and eight per cent nickel. The suffix (S) indicates maximum .07% carbon, and the 3Mo means three per cent molybdenum.

*Paper presented before The American Welding Society, Western Regional Conference, at Los Angeles, California, March, 1938, by Randolph Simpson, Metallurgist, Electric Steel Foundry Company, Portland, Oregon.

Thermal Properties

● Since practically all of the physical problems met with in the welding process by any method arise directly or indirectly from the application of the heat necessary to produce the weld, a very brief examination of the thermal properties of the stainless alloys will greatly help in considering the practice and technique to be used. For sake of contrast we may compare these properties with those of a low carbon mild steel which is familiarly and successfully fabricated almost universally and whose behavior is pretty generally understood; if we let the value of the mild steel be represented in each case by the number 100, we have the following relative values for the 18-8 type:

Specific Electrical Resistance....	640
Specific Heat	110
Melting Point (See note)	95
Thermal Conductivity	33
Coefficient of Thermal Expansion	145

(Note: Not an absolute ratio

$$\frac{2570 \times 100}{2700}$$

$$= 95).$$

The first, electrical resistance, plays an important part, of course, in all electric welding, while the last two prove troublesome in producing a localized highly treated area adjacent to the weld and serious warping or distortion during fabrication and cooling.

The research departments of all the large steel companies are more nearly in agreement when the topic of electric welding of austenitic stainless steels is brought up than on almost any other phase of steel subjects; they closely agree to the following points, viz: tough, ductile, highly satisfactory welds can be and are produced if the proper welding electrodes of approximately the same analysis as the material to be welded are used. In work up to 1/4-inch plate the welding electrode should be connected to the positive terminal of the generator, and the plate to the negative, a set up known to welders as reversed polarity. Coated rods should be used and the coating should be free from carbonaceous matter; the welding rod should not contain more than .07% carbon; the coating on the rods or electrodes should be made of a composition of elements which will insure a free flowing of the melted metal by maintaining a steady arc with a minimum of splatter. The welding should be done toward the flow of the current which should be regulated at the

welding machine. The following regulation table is frequently recommended, but is by no means absolute or fool-proof:

3/32-inch electrode—35-40 volts open circuit with 50-75 amperes;
1/8-inch electrode—40-45 volts open circuit with 75-100 amperes;
5/32-inch electrode—50-60 volts open circuit with 100-125 amperes;
7/32-inch electrode—55-65 volts open circuit with 150-175 amperes;
1/4-inch electrode—70-80 volts open circuit with 225-300 amperes.

In heavy work straight polarity is often used and has been known to produce very satisfactory welds.

Welding of Castings

● It goes without saying that the acme of perfection has been reached in an austenitic stainless steel casting when no welding is needed. Many castings of simple and even complicated construction can be and are made in foundries familiar with these steels which need no welding. There are, however, many extremely complicated castings which, in spite of the care used by the designing engineer to have them as simple as possible, are still the cause of many headaches to the foundryman whose duty it is to have them made. Due to differences in metal sections, multiplicity of cores and sand cutting by the hot metal, many castings of intricate design can hardly help having blemishes or perhaps draws because it is extremely difficult to feed them fully. In such cases such a casting must be thrown away or welded. In case it is decided it can be welded satisfactorily, the casting is sandblasted and thoroughly examined for the minutest flaws of any description and such flaws chipped out until solid metal is found beneath the flaw. Care must be taken that no spongy metal is left in the cut and that there is no oil, grease, scale or water near the part to be welded. To weld, the electrode should be positive, with as low voltage as will hold an arc. The weld should be laid smooth, without piling up, since the heavy coating will require excessive peening to clean. Any peening done should be just enough to clean coating off the weld. Do not use excessive heat, as excellent penetration may be had with fairly low heats. All the electrode manufacturers furnish welding rods of the right analysis; in sizes from 3/32 to 1/4 inches, which makes it convenient to reach the bottom of a Vee or a hole, whichever it may be. In case of a large hole it is recommended

that the beads be run in opposite directions so that the weld may be tied in better. Where more than one bead is necessary, care should be taken that each be thoroughly cleaned of all slag and dirt of any description before another is laid. A weld made in this manner will be as good and as sound as the parent metal and, when the casting is subsequently heat treated, will stand any pressure the casting will stand and will be equal to the casting in corrosion resisting qualities.

To avoid having defects in complicated pump castings, whose outlets may wind up with a flanged end, my company, in many cases, has found it convenient to cast such flanges separately and weld them to the outlet of the pump afterwards. Such a practice many times simplifies the job and gives the customer a better casting.

Welding of Plate

● The welding of stainless steel plates of the 18-8 and 18-8-3 varieties is a much simpler job than that of welding the same steels in castings. This is true because, for the most part, this type of welding is all open work. Very light plate work should always be clamped. This may be done in numerous ways, depending on the knowledge and ingenuity of the welder. When the welder finds it is necessary to tack plates to hold them in position while welding, care must be taken that the tack be an integral part of the finished weld. Best results are obtained if tack can be made on the opposite side of the weld. As plate gets heavier, beveling becomes necessary. These bevels should be prepared wider than in ordinary steel work so as to afford a more open kerf, the better to insure proper fusion. Puddling of these stainless steels must not be resorted to since poor welds will be the inevitable result of such practice.

Voltages and amperages, as recommended by rod manufacturers, are generally correct. As the heat is low, compared to mild steel, a generator set with arc stabilizing adjustment is most suitable, so that the welder can more readily attain the ideal condition of heat and arc length to accomplish maximum penetration and minimum splatter.

Where multiple pass welds are necessary, too much care cannot be taken in cleaning the preceding beads to exclude the possibilities of gas and slag pockets in the succeeding welds. If work can be arranged in such fashion that the slag carries

away more readily, the resulting weld will be denser. If a shop has hard and set rules about welding ordinary steels, then it is even more important that these rules be made still more exacting when dealing with the austenitic stainless steels. It goes without saying that since these steels are so expensive, and since fabricated work of every description is now being made with them, none but the most skillful of workers should be employed; then all work be most carefully scrutinized for the slightest defect. All this care must be taken because this fabricated work will most likely go into plants where highly corrosive chemical conditions exist and maximum temperatures and pressures must be withstood, and even small leaks may be very dangerous to other, less resistant, equipment and possibly human life. Even though the pressures to be handled are moderate, such as ordinary boiler pressures of 200 P.S.I. and less, the material should be tested under much higher stresses and patiently inspected for these minute flaws which, in ordinary service, would probably seal themselves in course of time with deposits from the materials or liquids handled. It is well to remember that many of these blemishes or porous spots in a weld may contain oxides or residues from the flux which might start electrolysis by the corrosives to be handled, and thus become increasingly dangerous during the life of the fitting or part. This consideration is entirely separate from that of strength and is often given little attention.

In plants where austenitic stainless steels must be used, though the corrosive conditions met with are not particularly severe, the ordinary 18-8 with the carbon content of .10% has been found excellent for the job, and plates used for such type of work may be welded with a like material with no subsequent heat treatment. Under more corrosive conditions 18-8S should be used with 18-8S welding electrodes; such work may or may not require subsequent heat treatment. Under still more corrosive conditions the 18-8S-3 plate is used, and all welding is done with electrodes of the same analysis. Subsequent heat treatment, under such conditions, may or may not be necessary and if so is performed by heating the work to about 2000° F. and rapidly cooling. In work of light sections air cooling is fast enough, but heavier work should be water quenched. It should be understood that this heat treatment is not done

to refine the grain of the steel since these steels do not respond to such treatment like other steels. In these steels the grains actually grow in size; the heating and rapid cooling is done to trap the carbides in the solid austenitic solution, thus putting the steel in its best condition to resist corrosion. If this heating and rapid cooling is not resorted to, a small zone on either side of the weld is in excellent shape to invite corrosive attack since, in these two zones there will be precipitated carbides.

● The reason for their presence is as follows, viz: when two pieces of austenitic stainless steel are welded together the metal on either side of the weld becomes heated to points high enough to cause carbides to be precipitated. The temperature at which this precipitation starts is usually considered to be about 900° F. Since these carbides cannot be re-absorbed in the solid austenitic solution, until a temperature of at least 1800° F. has been reached, obviously all parts of the metal which have attained temperatures between 900° F. and 1800° F., because of the welding operation, will contain more or less of them. In cooling, the weld and surrounding metal which has reached temperatures in excess of 1800° F. will cool fast enough, even in air, to trap such carbides in the solid solution of austenite, but the rest of the metal which has been heated between 900° F. and 1800° F. will, when cold, still contain unabsorbed carbides. The width of these zones will be a function of the mass of the weld and the expertness of the welder; if he uses a lot of heat and is slow about his work then the zones will be of greater area than if he did his work more rapidly and efficiently.

It has been claimed in the past that if the carbon content of the plate and welding rod was less than .07% C. heat treatment was not necessary. We have found this statement to be false in that even with the carbon content that low some precipitation does occur. To combat the precipitation, stabilized 18-8-Ti was produced, a product which contained titanium usually in amounts six times the amount of carbon contained. This material was faulty under certain conditions, since the heat of welding oxidized off some of the stabilizing element, thus leaving the weld and surrounding zones vulnerable.

In the last few years columbium in quantities ten times the amount

of carbon has been introduced as a stabilizer and, in jobs where subsequent heat treatment is impossible, probably makes the best installation, particularly when operating at elevated temperatures and under highly corrosive conditions. My company has not, as yet, resorted to the use of columbium in either our fabricated materials or our castings. We have found that when 18-8S-Mo is used for our fabricated parts, our standard 18-8-3 analysis for our castings and both kinds of work given our regular heat treatment they, separately or in combination, will withstand the most corrosive work with which we have to contend.

The bulk of the 18-8S-Mo which we use is installed in the sulphite pulp mills and I very much doubt if there is any combination of the elements that go to make up stainless steels which will give the general satisfaction this material does. This material finds its way into cast pipes, top and bottom neck liners, various outlets, standard and special fittings, and valves of all descriptions. Pumps used in this industry on the Pacific Coast are for the most part entirely composed of it. This industry demands a great deal of this type of plate, which is fabricated into many different shapes besides thousands of feet of various sized tubes which are used in heat exchangers. A great deal of this work, besides having to withstand highly corrosive conditions, must also withstand heavy pressures. The electric welding, when done well, stands up perfectly.

Choice of Welding Rods or Electrodes

● There are many brands of welding electrodes on the market and this paper would be far from complete if some few things were not said about them. Each company specializing in their production is usually able to furnish them in any desired size and to any desired guaranteed analysis. That there is a great deal of difference in these electrodes is, unquestionably, true but the difference is for the most part in the coating and not the steel. The producers are very jealous of their coatings, trying in every way to keep their various formulae secret. The function of the coating is to aid in maintaining a steady arc, prevent oxidation and to aid in purifying the deposited metal. Electrodes whose coatings have become moist must never be used, as poor welds will be the in-

evitable result. Some coatings will crack badly and drop off when an electrode is in the process of cooling after having been in use. Much waste occurs if this happens, since the bare electrode remaining cannot be used again in this process of welding. A great many electrodes seem to have a tendency to build up and splatter.

The ideal electrode, then, is one which gives the smoothest bead, holds the steadiest arc, has maximum penetration with minimum splatter, results in the least waste and gives the densest and most corrosion resisting weld.

All the large steel companies can produce good stainless steel rods, but all coating manufacturers do not produce the best coatings. It has been claimed that some coating manufacturers have introduced elements into their mixtures for the purpose of making a smooth run-

ning electrode which may be dangerous to the health of welders, especially when the welding is being done in close quarters and places with poor air circulation.

In bringing this paper to a close, it might be mentioned that while manual electric welding of the austenitic stainless steels, in the hands of competent welders, has reached a high stage of perfection in the last few years, welding engineers are by no means satisfied and new methods and better welds are in the offing. The greatest chance for development will, unquestionably, be in the automatic welding field, and the result will be a more perfect blending of the weld and the parent metal. Of course, the field for automatic welding will apply principally to plate fabrication and, since time is a great factor in determining the cost of such work, shops using automatic welding machines should be able to

materially lower welding costs over corresponding manual welding.

● The acme of perfection has not, as yet, been reached in rolled austenitic stainless steel products. In our experience we have found many cases where the cast product is superior to the rolled form, but since corrosion is a rather peculiar process it would not be unreasonable to assume that the reverse might prove true under other circumstances. Resembling a cast structure somewhat, perfect welds are very often superior in corrosion resisting qualities to the plates they join.

The preparation of this paper has been materially aided by the helpful criticism and valuable data given to the author, not only by our own welding and engineering staff, but also by Mr. Joseph Grimes of the Steel Tank and Pipe Company of Portland, Oregon.

Finnish Organizations Mark 20 Years of Cooperative Effort

Brief history of The Finnish Cellulose Union and The Finnish Paper Mill Association contains numerous points of interest to the American pulp and paper industry

● The June 30th number of The Finnish Paper and Timber Journal contained historical sketches marking the twenty years of cooperative effort by The Finnish Cellulose Union and the The Finnish Paper Mill Union. As these contain data of interest to the American industry they are reproduced herewith with acknowledgement to The Finnish Paper and Timber Journal.

"On July 2nd, the two leading organizations within the Finnish wood-working industries have existed for twenty years, viz., The Finnish Cellulose Union and The Finnish Paper Mill Association.

"Twenty years are not a long period in the life of economic organization, but in this case they represent the most important and remarkable period, both politically and economically, in the history of Finland. It is no coincidence that the twentieth anniversary of these two great associations synchronizes

with the twentieth anniversary of the declaration of Finland's independence. During the last two decades the country has made great progress in practically every field of human activity, and in these achievements our leading wood-working industries have a very honorable and distinguished part.

"In order to fully appreciate this, it suffices to recall the time when Finland as an independent republic first made its appearance in the world markets. The Finnish paper industry had found in Russia its principal export market, while trade relations with West European countries were but little developed. The Russian requirements in regard to quality were not on the same level as those of more advanced countries. The Finnish mills had adapted their technical equipment and working methods according to Russian requirements. Sudden and drastic changes in export conditions

would have caused great difficulties even in normal times, and this task was made all the more exacting on account of the various units within the selling organizations, thus affording the private initiative that scope without which permanent and successful cooperation within large industries is hardly possible. Thanks to this, the organizations are now, twenty years after their foundation, stronger than ever and enjoying the loyal support of their members."

The Finnish Cellulose Union

● "Our cellulose industry has a comparatively young history. Although the first cellulose mills were built in the early 'eighties, several years elapsed before new ones were erected and only during the first years of this century was the industry able to launch out on a larger scale. But first during the war and in post-war years the industry as-

sumed the position of one of the largest in Finland.

"During the first decade of its existence, the Finnish cellulose industry produced fairly small quantities. To start with, the Finnish paper mills absorbed the whole output, but already at a rather early juncture Russia became a considerable export market and right up to 1917 remained the principal foreign buyer of Finnish chemical wood pulp, although some other European countries also purchased limited quantities. Exports to Russia increased considerably during the War and were discontinued only when the Revolution brought about a complete economic disorganization of the Russian Empire.

"The Finnish paper, cellulose and mechanical wood pulp manufacturers, already before the War resorted to certain measures for organizing their selling activities on a joint basis. These organizations were, however, not very efficient especially in view of the rapid growth of these industries which demanded more extensive measures for controlling market conditions.

"When, therefore, in 1917, the Russian market collapsed, the Finnish manufacturers decided to take energetic steps towards establishing an efficient joint organization for the protection of the various interests of the Finnish paper industries. After careful preparations representatives of the leading Finnish cellulose mills met in Helsingfors, on December 6th, the very day that Finland's Independence was formally declared. At this meeting the programme for a great central organization was thoroughly discussed, and a committee was appointed to draft definite statutes for the projected association. Unfortunately the Red Insurrection broke out soon afterwards and like all the other Finnish industries the cellulose industry also suffered greatly during the following months.

● "First in the summer of 1918 had conditions in the country again improved to such an extent, that the industries were able to resume activities. The cellulose, paper, wood pulp, and card board manufacturers, therefore, at a meeting held in Helsingfors, on July 2nd, on the initiative of Colonel Gosta Serlachius, decided to carry out the decisions previously made regarding the foundation of central organizations with respective industries. On that day The Finnish Cellulose Union was thus constituted and its by-laws unanimously accepted. At the

same meeting the first Board of Directors was elected. Mr. Jacob von Julin was elected chairman and Mr. Walter Grasbeck general manager of the Union, both gentlemen having ever since retained their responsible posts. By virtue of his appointment Mr. Grasbeck also became a member of the Board, which in addition consisted of Mr. Paavo Paloheimo, Mr. Walter Ahlstrom, Mr. Herman Heiberg and Mr. Hjalmar Eklof.

"Fully appreciating the difficulties ahead, but inspired by a firm belief in their task and prepared to subordinate their individual interests to the common good, the Finnish cellulose manufacturers had thus joined forces in order to protect and develop their industry and to make it known all over the world.

"All the Finnish cellulose mills then in existence, viz. 14 sulphite mills and 6 sulphate mills at once joined the Union.

"It may be said without exaggeration that the Union at its start was confronted with very great difficulties but the Union mobilized all its best forces, and the history of how this extensive work has been accomplished represents a very interesting and encouraging chapter in the annals of modern industrial and commercial developments.

● "To start with, or as long as the Great War lasted, only the German market was opened for Finnish cellulose, and the Finnish manufacturers were able, despite manifold restrictions and the keen competition from Sweden, to ship fairly large quantities to Germany.

"Early in 1919, the Finnish government sent a delegation to the Allied Powers in order to make Finland better known in these countries and especially to open up regular trade relations. The chairman of the Union, Mr. von Julin, was placed at the head of this delegation, while one of the members was Colonel Gosta Serlachius who in the previous year had initiated the important organization of the Finnish paper industries. This delegation completed its mission with signal success, so that exports to England, Denmark, France, Belgium, Holland, Spain, Italy and North and South America could soon be resumed on a regular basis. Particularly important was Mr. von Julin's visit to the United States, where he established very valuable connections in trade and banking circles and opened up that great market for Finnish cellulose exports.

"After the most acute stages of the post-war crisis had passed, the Cellulose Union was able, under more normal conditions, to continue its activities. These have been crowned by great success. It is, however, natural that also the cellulose industry has been affected by the consequences of extremely unstable market conditions and financial disturbances, occurring in most countries as a result of the Great War and also several times later on. In addition, the Finnish cellulose industry has been forced to extend its scope in the world markets in keen competition with the other cellulose importing markets which already before the War had gained a firm footing practically in every part of the world. The Finnish manufacturers were, however, able to master these adverse conditions, thanks to the considerable authority that the Union had gained in the meantime and also to the excellent spirit of solidarity shown by the members.

● "From the first moment of its existence, the Cellulose Union has energetically endeavored to make Finnish cellulose known and demanded in various parts of the world. For this purpose it has been of vital importance for the manufacturers not only to raise the general quality of the cellulose, but also to standardize the manufacture of the article by introducing effective methods for controlling the process so as to equalize the production in the various mills. The Union has further taken the initiative to various other measures for improving productive methods, in these endeavors being efficiently assisted by the work of The Central Laboratory for the Finnish Industries which is largely subsidized by the Union.

"The varied activities of the Cellulose Union, briefly outlined in the foregoing, serve no doubt to indicate that it has played a most important part in the life of the Finnish cellulose industry during the past ten years and perhaps more than any other factor served to promote it to the leading position that it occupies at present in the economic structure of Finland. But it has achieved even more than that in another direction. The Union has quite rightly been characterized as the world's largest cellulose mill which at any moment is prepared to supply any country with any desired quantity and quality of chemical wood pulp.

"For its members, the Union has been of the greatest help and use in

many directions. It has thus safeguarded their interests in the various markets with the indisputable authority that it has gained in the course of the years, and it has financed sales at the lowest possible rates of interest, thanks to its excellent relations in the world's money market.

"Chairman of the Union during all these years has been Mr. Jacob van Julin who with impartiality, competence and energy has directed the activities of the organization. In this work he has been very skillfully and devotedly assisted by the general manager, Mr. Walter Grasbeck.

● "On its Board of Directors the Union has always been privileged to have as active members the ablest and most experienced representatives of the cellulose industry in the country, all of whom have been inspired by that loyalty and devotedness to its work and aims that have ensured the success of the Union.

"The other ordinary Directors at present are Mr. John M. Gylphe, Vice-Chairman, Mr. K. E. Ekholm, Mr. Lauri Kivinen, Mr. V. Hirvensalo, Mr. V. A. Kotilainen, Colonel Gosta Serlachius and General R. Walden.

"Assistant managers are at present Doctor Werner Neovius, Colonel P. Talvela and Mr. Jacob von Julin, Jr.

"From a modest beginning, more than a quarter of a century ago, the Finnish cellulose industry has developed into one of our leading principal industries. While the gross value of invoices still in 1918 amounted only to 20,133,120 Finnish marks, it had in 1937 risen to the imposing figure of 2,147,611,959 marks. The total exported quantity of cellulose was in 1918 only 36,426 tons, while in 1937 1,179,337 tons. Last year the value of cellulose exports represented 22.2 per cent of the country's total exports.

"The Cellulose Union has been very happy in the choice of its agents abroad, all of whom have shown great interest in their duties.

"The following firms are at present acting as the Union's agents abroad:

Great Britain: Price & Pierce, Ltd., London.

France: Pautrot & Bonnet, Paris.

Spain: W. M. R. Harmens, San Sebastian.

Belgium: Ste. Ame Sivers & Neame, Brussels.

Holland: Otto J. Faber, Amsterdam.

Denmark: Gustaf Packalen, Copenhagen.

Italy: S. A. Italo-Finlandese, Milano.

U. S. A.: Pulp Sales Corporation, New York.

Germany: Flach, Muther & Co., Hamburg; H. & A. Gratenau, Hamburg.

Estonia: Erich Karien, Tallinn.

Latvia: L. Kalmin & W. Kraemer, Riga.

Switzerland: Dr. Carl Schauwecker, Wabern-Berne.

Japan: Ouchterlony & Co., Ltd., Osaka.

The Finnish Paper Mill Association

● "The manufacture of paper in the modern sense was not begun until about 1870, although the first paper machine was set up already in 1841 at Tammerfors, and small rag paper mills had existed since the seventeenth century. Not until the problem of the manufacture of paper from wood had been solved and the first cellulose mills had been built, was a proper foundation laid for paper making on a large scale in this country.

"The Finnish paper making industry has always been principally directed towards exports. In pre-war days, Finnish paper was principally sold to Russia, though a small market was also found in Western Europe. Whereas in 1870, the production was estimated at about 1,000 tons, and exports totalled about 80 per cent of the output, by the beginning of the present century production had risen to 45,000 tons per annum, and exports to 35,000 tons. Ten years later, the corresponding figures were 70,000 and 55,000 tons respectively, and in 1913 they amounted to 167,000 tons and 145,000 tons.

"Already in 1892, the first steps were taken in the direction of co-operation between the Finnish paper manufacturers by the formation of the Finnish Paper Association which took charge of the sales of the then so important brown paper in Finland and Russia, as well as in all other markets. Later on other bigger and smaller associations and unions were formed.

"At the end of the War of Liberation, in the spring of 1918, the Finnish paper industry was confronted with the greatest difficulties, both with regard to work at the mills and sales possibilities. Many mills had suffered devastation in this War, while the policy of eco-

nomie restriction due to the Great War rendered it practically impossible to import many raw materials of the first importance, etc. Further, one could no longer count upon the Russian market, while possibilities of sales to other countries were reduced to a minimum.

● "Just at this time, Colonel Gosta Serlachius took the initiative for the formation of the Finnish Paper Mill Association.

"Representatives of the Finnish paper, cellulose, woodpulp, and card board industries met together in Helsingfors in the summer of 1918. It was then decided to form joint organizations within all these industries. On July 2nd, The Finnish Paper Mill Association was constituted. As is known, the Finnish Cellulose Union was formed the same day, while already earlier there existed a central sales organization for the woodpulp and card board industries, viz., the Finnish Woodpulp and Board Union.

"The Finnish Paper Mill Association was joined already at its first meeting by all paper mills in the country, with the solitary exception of a little mill, which later was closed down.

"According to the articles of agreement, the Association was to conduct joint sales of the products of the associated firms both at home and abroad.

● "The first Board of Directors of the Association consisted of General R. Walden, Chairman, Mr. R. V. Frencckell, Vice-Chairman, and Mr. M. Christiansen, Mr. E. Klaila, Mr. A. Lampen and Mr. R. Forss. As Managing Director the Board appointed Mr. H. J. Gronvik, who had held a similar appointment in the older Paper Association which, in common with other earlier sales organizations was now wound up.

"When the Association was started sales possibilities were not only extremely restricted, they were above all very uncertain.

"At the beginning of 1919, the Finnish Government sent out a Trade delegation to negotiate with the Allied Governments concerning the resumption of business relations. Mr. Jacob von Julin acted as Chairman of this delegation while Colonel Serlachius joined it as an expert on behalf of the paper industry. The latter gentleman was at the same time to investigate the sales market on account of the Paper Mill Association and also to engage suitable agents. The connections which he succeeded in making have

also continued to be of great value to the Association.

"Finnish paper gradually succeeded in gaining a foothold in the West-European and oversea markets, despite the fact that it was practically unknown and had to withstand keen competition. The success achieved in this respect is in great part attributable to the fact that the Association was a living reality, and that the mills consequently were able to hold an unbroken front.

● "With the close of 1921, the period expired for which the first agreement of association was valid. Two members gave notice that they were no longer disposed to cooperate in the same manner as before, namely Kymmene Aktiebolag and Tervakoski Osakeyhtio.

"At this time another organization, The Finnish Paper Bureau, was formed and took over sales in Finland, Russia, the Baltic States and Poland. The department for sales in Finland of the Finnish Paper Mill Association was merged in this new organization of which Colonel Carl Lindh was appointed general manager.

"After Mr. Gronvik, who during the first hard years with unflinching interest had held the position of managing director, had notified his wish to leave, Mr. Rafael von Frenczell was appointed as his successor from June 1, 1923. Mr. von Frenczell had been vice-chairman of the Board of Management and Supervisory Board, respectively, ever since the constitution of the Association.

"In 1931 Mr. von Frenczell expressed his wish to resign and the present managing director Minister H. J. Procope was appointed his successor. Manager of the Association's I department (newsprint) is Mr. B. Sjöberg, of the II department (wrapping paper), Mr. Schuster, and of the general department, Mr. H. R. Sumelius. In 1935 The Paper Exporters of Finland was founded by The Finnish Paper Mill Association and Kymin Osakeyhtio—Yymene A. B. The object of this organization is to sell to South and Central American continent (except Mexico) the above mentioned members' production of M/F, S/C and bulky newsprint and other papers being intended for daily newsprint, journals and magazines. Mr. H. J. Procope is chairman and Mr. H. R. Sumelius managing director and Mr. Sven H. Hagerstrom assistant manager.

● "Twenty years after the start one can state with satisfaction that the cooperation within the Association has been unusually smooth and characterized by mutual confidence, a fact which has left its impress on all the activities of the Association. The various members have shown rare loyalty in subordinating their personal interests to the good of the whole.

"An inestimable advantage to the Association has lain in the fact that unbroken continuity has all along been maintained in the supreme management. General Walden still occupies the post of chairman of the Supervisory Board. His forceful and able leadership has been the connecting and driving power behind the Association in difficult times.

"The paper industry is one of the most important factors in the economic life of this country. In 1937, Finland manufactured about 623,000 tons of paper, of which some 518,000 tons were exported. During the same period the exports of The Finnish Paper Mill Association totalled about 332,000 tons. In view of these facts it is easy to comprehend what an important part The Finnish Paper Mill Association has played within the Finnish paper industry. The hopes which at the start were placed in The Finnish Paper Mill Association have been abundantly realized. Finnish paper is today known all over the world. Behind this simple truth lies enormous work, carried out jointly during the past decades by The Finnish Paper Mill Association and the Finnish paper manufacturers.

"The following gentlemen are at present members of:

● "The Supervisory Board: General R. Walden, chairman, with Mr. J. W. Walden as deputy; Colonel Gosta Serlachius, vice-chairman, with Mr. R. Erik Serlachius as deputy; Mr. C. G. Bjornberg, General O. Enckell, Mr. R. Rafael von Frenczell, Mr. Ake Gartz, Mr. Harry Gullichsen with John M. Gylphe as deputy; Mr. Henry Hackman with Dr. Ing. Adolf Klingstedt as deputy, Mr. V. A. Kotilainen with Mr. J. Sihtola as deputy, Mr. G. M. Nordensvan, Consul Yrjo O. Riisla, Dr. Wilhelm Rosenlew, Mr. Arno Solin with Mr. Ake Kihlman as deputy, Mr. Gosta Sumelius, Mr. Ilmari Tamminen, Mr. Solve Thunstrom and Mr. K. Valimaa with Mr. N. Kanto as deputy.

"The Board of Directors of Department I: Mr. Ake Gartz, chairman; Mr. R. Boedecker, Mr. H.

Eklund, Mr. R. Fraser, Mr. John M. Gylphe, Mr. Niilo Kanto, Mr. Ake Kihlman with Mr. Arno Solin as deputy; Mr. Gosta Sumelius, Mr. B. Ungern, General R. Walden with Mr. J. W. Walden as deputy.

"The Board of Directors of Department II: Colonel Gosta Serlachius, chairman; Mr. V. Bystrom, General O. Enckell, Mr. Ake Gartz with Dr. Fr. Borg as deputy; Mr. Henry Hackman with Dr. Ing. Adolf Klingstedt as deputy, Mr. A. Jaatinen, Mr. S. Krogus, Mr. G. Lindblad, Mr. G. M. Nordensvan, Consul Yrjo O. Riisla, Colonel Gosta Serlachius, Mr. R. Erik Serlachius, Mr. J. Sihtola, Mr. I. Sipila, Mr. I. Tamminen, Mr. Solve Thunstrom, General R. Walden with Mr. J. R. Walden as deputy and Count B. Vitzthum.

"The Association's body of agents is a factor which has greatly contributed to the results of the the Association's sales activities having turned out so well, despite the many difficulties encountered. Following firms are at present acting as the Association's agents abroad:

United Kingdom—Corke, Sons & Co., Ltd., London; H. B. Legge & Sons, Ltd., London; Legge Bros. (Export), Ltd., London; The Plywood & Timber Products Agencies, Ltd., London; Robert A. Goodall, Glasgow.

France—Comptoir General des Papiers, Paris.

Germany—J. Joseph Flach, Hamburg, Monckebergstrasse 11, Hamburg I.

Holland—N. V. Handelsvennootschap Carl Wiemeyer, Amsterdam.

Belgium—Campagnie Commerciale Carl Wiemeyer S. A., Brussels.

Sweden and Norway—Aron Andersson J:or, Stockholm.

Denmark—Tonne von Christieson, Copenhagen.

Turkey—J. Springer & V. Amon, Medina, Istanbul.

Spain—Antonio Cortes, Madrid.

U. S. A.—The Jay Madden Corporation, New York.

Argentina—Aron Andersson J:or, Buenos Aires.

Australia—Paper Agencies, Limited, Melbourne.

Egypt—The Finnish Trading Agencies, Alexandria.

Switzerland—Dr. Carl Schaecker, Wabern-Berne.

Palestine—Isaac Oisemann, Tel Aviv.

Morocco—Ed. Lorch, Casablanca.

Syria—Les Fils de Basile Obegi, Aleppo.

Teheran—Eric Carlberg.

Modern Stock Preparation

by A. E. BRIDGE*

UNTIL recently, paper makers were given to modernizing their mills by installing new stock preparation equipment wherever there happened to be room for it, trucking their raw and furnished stock to and from it without regard to the inconvenience or time or power losses incurred. No system to the layout—none whatever.

In contrast, and it really is a contrast, mills are today giving a great deal of thought to layout—even going so far as to revamp their entire stock preparation setup, rearranging their old equipment as well as their new in order to achieve a properly coordinated whole. Why? Because mill after mill has found that it pays to take advantage of every factor that can in any way contribute to the efficiency of the system.

Just what can be accomplished in the design and layout of a breaker beater system, including the building housing it, is made clear in the accompanying photographs and drawings.

The particular system here illustrated, was only recently installed in a mid-western mill, the mill engineers working in close collaboration with its designers, Shartle Brothers of Middletown, Ohio.

● This is an instance where the very building itself was designed and built to house the equipment under discussion—hence the unusual measure of convenience achieved, a fact that will become more and more apparent as we proceed.

This building is in three sections, a stock room at either end with the entire breaker and selective screening system located in the center. This arrangement means short hauls of incoming baled stock both from cars or trucks to storage and likewise short hauls from storage to breaker beater.

There are no interfering posts in this building, the roof being supported by special truss work. The ventilation is excellent being obtained through the installation of smoke hatches in the roof. The flood lighting system is ideal. The

fire doors are electrically operated and lead from each storage room to the breaker system in the center; and, in addition, a modern sprinkler system has been installed to further complete the protective measures taken. Located at each of these storage room doors is a platform scale on which the stock is weighed en route to storage and from storage to breaker.

On the rail siding of the building, large sliding doors the full length of both storage rooms, open onto the unloading platform, eliminating the necessity of respotting cars, there always being a storage room door directly facing the car door.

The breaker beater section in the center between the storage rooms also has its points. The roof over this part of the building is of Transite thus eliminating all sweating and dripping. Extensive skylight area admits of ample light and ventilation. The settling trough (to be covered later) rests on supports suspended from extra large roof trusses built extra heavy for this very purpose.

● Coming now to the equipment that makes up the system under discussion, the Shartle breaker beater lies with the rim of the tub practically flush with the floor level, extending, to be exact, a matter of only 12 inches above it, just enough to form a water curb.

This breaker is, incidentally, of the latest type all-steel welded construction and has a welded roll driven by motor through a V-belt drive using a flat faced pulley on the breaker shaft.

This breaker roll is worthy of further attention due to the fact that the bars are shrouded at each end of the roll to eliminate end wash. The elimination of end wash aids in holding down the power output.

The roll shaft is equipped with marine type bearings, running in water insulated Insurok liners. This makes it practical to fit the roll within 1/8-inch of the side walls, which close fit keeps strings or rags from collecting at this point.

The backfall is of a renewable two-plate welded steel design, permitting the replacement of the top plate, should it become worn, with-

out disturbing the supporting plates or removing it from the breaker.

The bars in the roll are of high carbon steel bolted to the mild steel bars of the welded structure. With this construction the striking edge of the bar can be reversed when it becomes rounded—thus bringing back the full circulation and pulping.

● The entire tub is covered in order to confine the steam introduced into it—an important aid to disintegration. A trap door in the tub covering opens as required to permit the rag catcher rack to drop into position to catch rags and again closes when the rag catcher is again raised out of position. The charging end also has its trap door, hinged to open when charging the tub.

This rag catcher is of an automatic dumping design and is located just ahead of the stock-charging door. The photograph shows how efficient this rag catcher really is in removing the rags and strings from the half-stock as it travels around the tub.

For removal of the heavy foreign material a continuous junk remover is installed in the midfeather of the breaker, just ahead of the roll.

All make-up water for the breaker beater is charged in at the bottom of the junk remover box and passes up through the accumulated junk in the junk trough in the bottom of the tub. Thus all fibers lodged around the junk are freed and flowed upward into the main stream of circulating stock.

All junk is washed and freed of fiber—double washed to be more exact.

From the breaker beater the stock passes through a regulating box, which box is fitted with an adjustable gate for controlling the amount of discharge to an 8-inch Miami DS centrifugal pump which delivers it to the inlet end of the settling trough.

In the settling trough the stock is diluted with white water to a consistency of around one per cent, travels a distance of 120 feet during which travel along the trough all smaller heavy matter, such as pins, small bits of glass, sand, etc., settles to the bottom for removal.

*Sales Manager of the Shartle Brother Machine Company, Division of the Black-Clawson Company, Middletown, Ohio. This article was prepared by Mr. Bridge at this journal's request.—Ed.

● Having traveled the length of the settling trough, the stock flows over a dam at the end of the trough and passes downward to the selective screens of the system. These selective screens are of the eccentric flat plate type, with all-steel welded cradles in which are mounted steel plates with specially designed perforations.

The stock that is well pulped, passes through these perforations, leaving behind a minimum of semi-pulped stock along with such floating foreign material as cellophane, rubber bands, cork, etc. This unscreened material is all diverted to the discharge end of the screen by means of traveling scrapers.

The accepted stock, that which passed the screens, goes on to a battery of three 36-inch by 96-inch thickeners where it is thickened to a consistency of from 3% to 4%.

The white water from these three thickeners goes to a large white water storage tank located under the floor of one of the stock rooms and is returned to the head of the settling trough for re-use.

The material rejected by these three primary screens flows to a refining medium, the plug being backed off so as to not crush the rubber bands, parafined material, etc., but does pulp the unrefined

good stock. This discharges to a secondary screen for the removal of the foreign material from the acceptable stock.

● This accepted stock is sent on to a fourth thickener where its consistency is also built up to from 3% to 4%, as was the main body of stock that passed the primary screens in the first place.

The white water from this fourth thickener also goes to the chest under the stock room.

The stock on leaving the several thickeners drops into a pipe header which permits it to be diverted to either of two chests located directly under the floor below the thickeners, ready for jordaning.

The make-up white water for the breaker beater and the diluted white water for the settling trough are both drawn from this storage tank, each being delivered to its respective charge-in points by a 10-inch Miami Class A centrifugal pump.

Incidentally, the uniform supply of water thus provided is largely responsible for the uniform consistencies of the stock during the various phases of the refining process.

An overflow line from this storage tank passes to a cylindrical save-all and from there to the sewer.

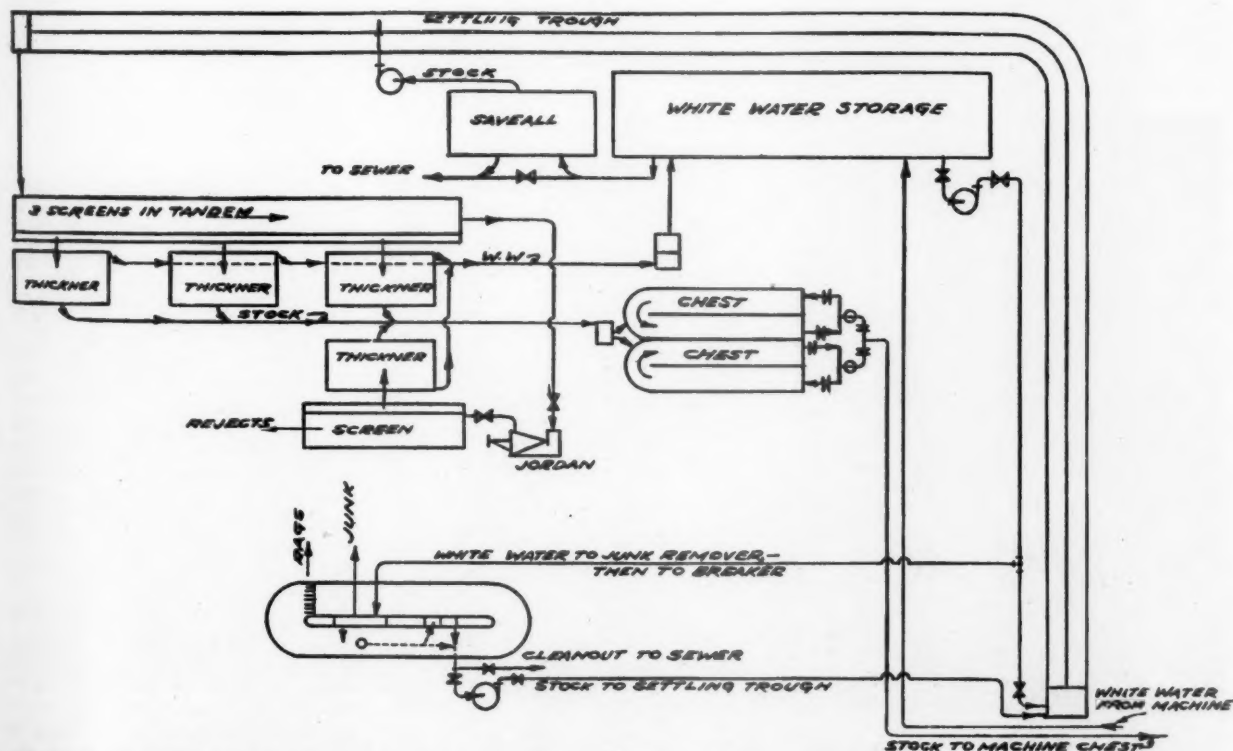
● Be it also noted that the white water returning from the paper machine also discharges into this tank and that the white water returning to the system is taken from the bottom of the tank, thus continually removing any precipitated fibers or sludge.

At this point permit of the observation that in this system very little fiber is lost at any point, everything being designed to salvage and process every acceptable particle of stock fed into it.

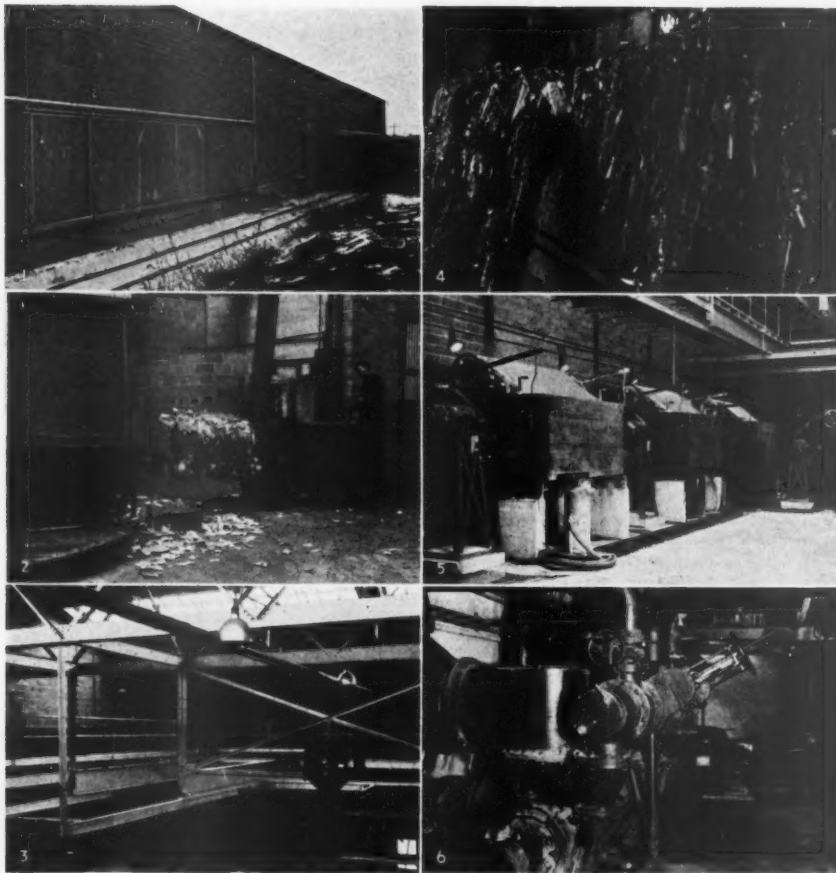
It is also interesting to note the small amount of pipe required to connect the various units of the system, that this piping is welded throughout, and that extra long radius elbows are used to reduce pipe friction at every pipe turn.

The pumps, you will also observe, all are Miami centrifugals. Properly designed and properly installed, a centrifugal pump can be depended upon to deliver a uniform quantity of a given stock at all times.

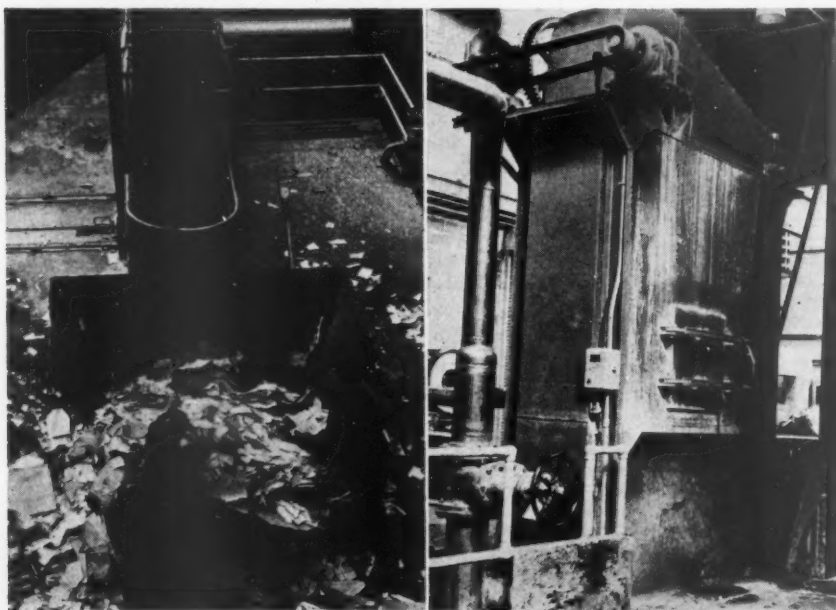
Another interesting feature at this particular mill is the fact that the breaker system is some distance from the paper machine and that a Miami 16-inch H-M combination unit is employed to deliver the stock to the paper machine as well as to keep the stock in the chest in proper suspension.



SCHEMATIC ARRANGEMENT of modern stock preparation plant breaker beater system.



No. 1, Numerous doors avoid respotting cars of baled stock. No. 2, Electric trucks bring bales direct to breaker. No. 3, Settling trough of adequate capacity is overhead. No. 4, The automatic rag catcher really works. No. 5, The three stock thickeners. No. 6, The MIAMI 16 inch H-M combination unit keeps stock in chest suspended and also delivers it to paper machine.



At the Left, the SHARTLE Breaker Beater is at floor level and completely covered. Filling is a simple operation. On the right is the automatic junk remover with discharge door at proper height for dump truck.

● The white water returning from the paper machine is handled by still another Miami centrifugal pump.

All stock lines from this breaker system to the paper machine, and return, are routed through a tunnel connecting the breaker system building with the rest of the mill, which tunnel is below the frost line.

Please note that all thickened stock has been thoroughly cleaned and made ready for jordaning as is shown by the appearance in photographs D and E, of a hand sheet, and of a "look through" of the same sheet, made of stock from the thickeners. The "look through" proved beyond any doubt that there is very little work left for the jordan to do to make this stock ready for the paper machine.

This is exactly what any operator of a breaker system has the right to expect—and what, at this mill at least, he is actually getting in the way of stock cleaning and pulping.

It should be remembered that all breaker beater stock has been previously worked and that all that is necessary for any good breaker system to do is to remove any and all foreign materials present while it thoroughly reduces this stock to slush form and places all fibers in individual suspension.

Very little cutting is necessary on stock so prepared. This can be seen by a glance at the "look through" already referred to, one pass through a good brushing jordan being all that is required to finally reduce the few lumps that appear in it.

As for foreign matter removal, the surface appearance in the photograph shows no cellophane, rubber, matches, cork or what not, all such having been extracted before the stock reached the thickeners.

● On a basis of 150 tons a day, this breaker and selective screening system operated on a total of 386 h.p. The breaker proper requires 140 h.p.; the pump from the breaker 30 h.p.; the first three or primary screens, in tandem, 7 h.p.; the fourth or secondary screen $3\frac{1}{2}$ h.p.; the four thickeners 14 h.p.; pump on the chest which both agitates the chest and delivers stock to the paper machine 41 h.p.; white water pump for returning the white water from the storage chest to the settling trough and breaker beater 21 h.p.; Save-all pump $4\frac{1}{2}$ h.p.; breaker disintegrating pump around 60 h.p. Including 3 Filler Jordans the system takes 5.52 h.p. per ton.

Note: In this particular instance an old jordan is serving in connection with the secondary screen, instead of a disintegrator pump, to develop a brushing action similar to the action of a distintegrator pump, which jordan uses 125 h.p. It is, therefore, obvious that a further saving of .43 h.p. per ton could be made through the use of a breaker disintegrator pump at that point in the system in lieu of a jordan and such is recommended.

This entire system is being handled by three men, one in charge of the system and two to unload cars and trucks and serve the breaker beater. The handling of the stock is well planned.

Compact, efficient, perfectly accessible, yet not crowded, this system is one of the most complete and most efficiently laid out for the handling of old paper stock for conver-

sion into boxboard that has ever been installed.

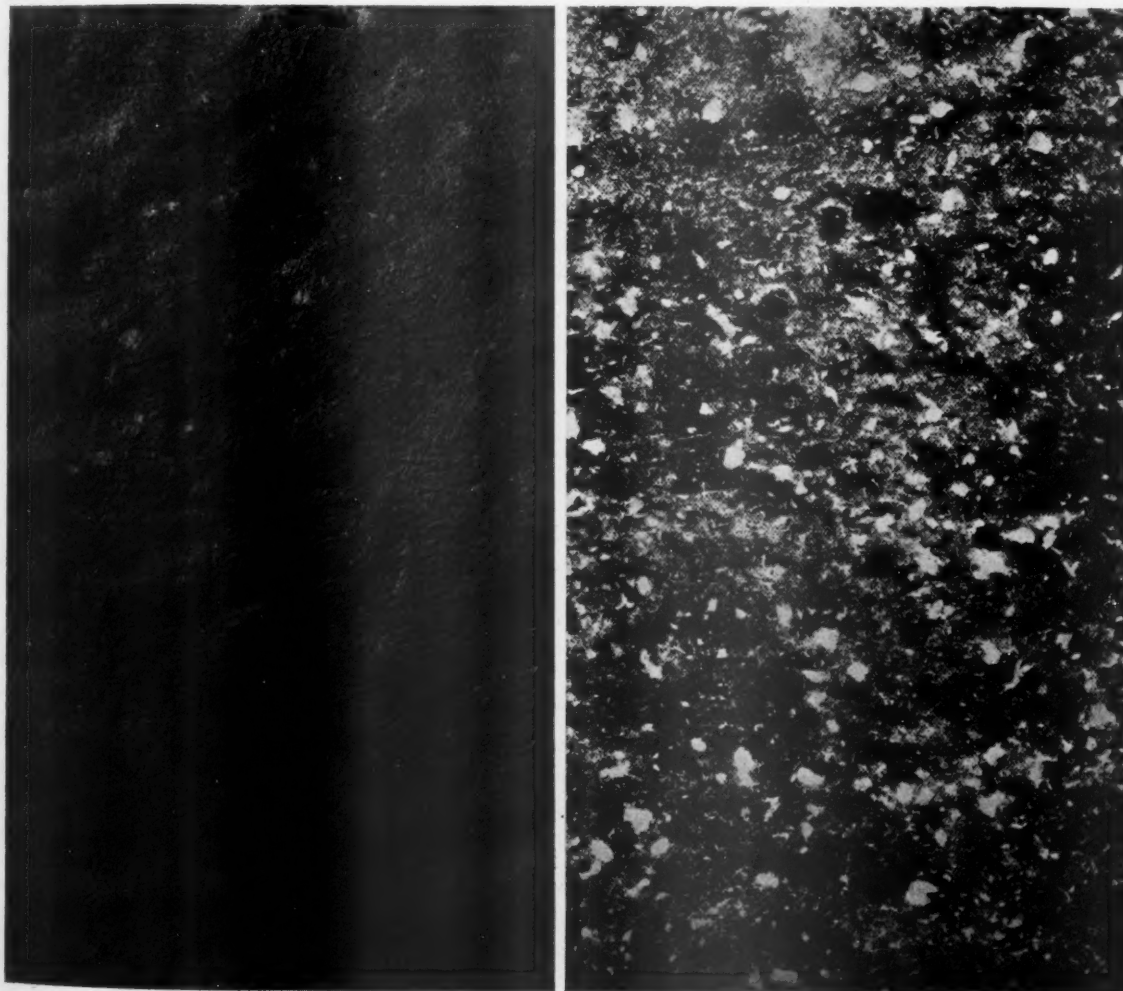
Although the system for cleaning and pulping paper stock cannot be taken to apply in its entirety to any other boxboard mill, it does, nevertheless, demonstrate the fine results obtainable through a thorough study of a situation before going ahead with the purchase and arrangement of the various units of such a system.

Although the waste paper available to West Coast mills is, perhaps, somewhat cleaner than that obtainable in the East, Western baled paper does, nevertheless, contain large quantities of foreign matter that has to be removed if a clean sheet of boxboard is to be obtained.

● A system like, or similar to, the one here described offers the most effective and thoroughly economical way to do this work. There is no

practical way to clean such papers in their dry state. And since such stock has to be handled in slush form it has long since been proved that at least the filler part of boxboard should be cleaned as early as possible in this wet process in order to insure safe running of the machine, uniform test and to reduce the wear and tear on subsequent machinery; also to reduce the handling of waste matter by rejecting it early.

The operators of the system here described are convinced that it is more than justifying the time and trouble and outlay involved in its design and installation—because of the improvement in the board they are making and because of the savings being effected on jordan filling, paper machine screen plates, cylinder faces, felts, less broke and in divers other ways.



Photograph "D" on the left shows good felting qualities of stock taken from thickener . . . On the right, photograph "E" with light showing through, indicates that there is little work left for the jordan to do . . . It will be noted that all foreign matter has been removed before stock reached the thickeners.

The builders of the various pieces of equipment that go to make up a competent system of this character are always ready to supply it. But they will, and at the very start, remind any mill that may be interested, that a breaker beater alone is not a system.

They will emphasize the fact that the results apparent in the hand sheet here shown can be obtained only through the use of all the equipment here described, and that the equipment should be properly arranged, each piece with respect to

the other, so as to form an efficient and economical operating whole.

"We progress through change" and those who today avail themselves of the best the market affords are the ones who, when business improves, will do the forging ahead.

Hawley Makes Big Strides in Safety Work

In Five Years Frequency Rating
Reduced From 177.0 in 1932 to 41.0
in 1937 and 20.7 in First Half of This Year

● Since 1933, the Hawley Pulp and Paper Co. of Oregon City, Oregon, has made a remarkable record in the reduction of frequency and severity of accidents occurring in their operation. For five years Vice President Carl E. Braun and K. G. Urfer, personnel manager and safety supervisor, have worked on the problem and have achieved very gratifying results.

In 1932 the frequency rating was 177.0, which for the year 1937 was reduced to 41.0. In the first seven months of 1938, this was still further lowered to 20.7. The severity rate in 1932 was 13.8, while in 1937 it dropped to 1.64, and during the first seven months of this year to .35. The following table shows the record in detail. All data is figured according to the standard National Safety Council method.

Year	Man Hours	Accidents	Days Lost	Frequency	Severity
1932	363,937	64	5005	177.0	13.80
1933	764,728	83	5108	108.5	6.68
1934	1,095,424	66	2050	60.2	1.87
1935	1,068,369	64	3412	60.0	3.19
1936	1,168,878	31	2863	26.5	2.45
1937	1,465,353	60	2403	41.0	1.64
1938 (seven months)	628,000	13	217	20.7	.35

In initiating the program which has been responsible for this fine showing, the first step was in organizing a safety committee consisting of department heads and sub-foremen. They instituted regular semi-monthly meetings, and brought in various other key men. Instead of sticking entirely to safety instruction, they provided movies and speakers for the men, in addition to hearing accident reports, safety suggestions and the like. An effort was made to create interest in the work and in the meetings, especially on

the part of the foremen, whom they regarded as the key men in any safety program.

Competitions between departments were held, and a bulletin board constructed to give a graphic, moving record of the safety work.

● First aid instruction has been one of the big factors in making the men safety conscious and in reducing accidents. Last year they instituted a first aid school and put 42 men through the standard course, 24 of whom went on through the advanced course. This next fall they will have all department heads and sub-foremen become qualified in first aid, as well as all others who can be accommodated.

The company constantly preaches the use of proper safety equipment such as safety shoes, goggles, etc.

There are suggestion boxes all over the mill and a monthly prize is awarded for the best suggestions on safety, mill operation, etc., that comes in.

Another thing that has helped has been the system of having every foreman make a complete report of every injury in his department. These records are kept on file, and when any one individual is involved in frequent accidents, it is quickly noted and the cause investigated. Each foreman is provided with a first aid kit suitable for minor in-

juries which do not require the attention of a doctor or nurse. This enables the foreman to see what is going on in his department, and gives him a feeling of responsibility for safety of his men.

The most remarkable accident record of the company has been made in the sawmill, ordinarily one of the more hazardous spots in this type of operation. The sawmill has operated so far this year with but one slight accident and the loss of six days' time. This accident is, in fact, the only one occurring in 265 days, at the time of writing. The men in the sawmill got interested in safety work and took pride in their good record. The result has been of great value to the men themselves, and most gratifying to the management.



CARL E. BRAUN
Vice-President and
Mill Manager, Hawley
Pulp & Paper Company

Rayon

and other
CHEMICAL USES
OF WOOD PULP



Japan Curtails Rayon Yarn Production 70%

● Late in June the Japan Rayon Association voted to raise the rayon filament yarn production curtailment rate from 59 per cent up to 70 per cent for the four months period, June through September. The Rayon Organon states that this rate of curtailment, especially for such a period, is without precedent in the history of the world rayon industry.

The output of rayon filament yarn producers in Japan for the first five months of the year, already on a curtailed basis, averaged about 21,000,000 pounds per month. Under this new curtailment rate the monthly output will be reduced to around 13,000,000 pounds.

For the purpose of giving perspective to the new yarn curtailment program, we have prepared (says the Rayon Organon) the following table showing the history of Japanese rayon yarn production curtailment rates. Prior to 1935 no rayon yarn curtailment plans were in effect.

The curtailment rates:

July, 1935-February, 1936, 20%.

March, 1936-June, 1936, 30%.

July, 1936-September, 1936, 35%.

October, 1936-June, 1937, 34%.

July, 1937-October, 1937, 33%.

November, 1937-May, 1938, 59%.

June, 1938-September, 1938, 70%.

The above are approximate average of curtailment rates for large companies, small companies and "newly installed" spindles, according to the Rayon Organon.

● The reasons for this latest drastic curtailment are clear, says the Rayon Organon. Between the destruction of the North China export market by the present Sino-Japanese hostilities and the depressed conditions of the other important markets, there has been a substantial reduction in the Japanese rayon filament yarn and fabric export trade. For the first quarter of 1938, rayon yarn exports had decreased 31 per cent from the same 1937 period, while rayon cloth exports showed a 24 per cent reduction. In addition, the domestic consumption of rayon yarn had declined and heavy inventories of yarn have accumulated.

First Quarter U. S. Rayon Production

● Total production of rayon yarn by domestic producers during the first quarter of 1938 amounted to 57,500,000 pounds, according to the Rayon Organon. In the first quarter of 1937 production was 76,800,000 pounds. This was a decline of 19,300,000 pounds or 25 per cent under the first quarter of 1937. Production in the first quarter of 1936 was 69,600,000 pounds.

The production in the first quarter of 1938 of 57,500,000 pounds was 16,300,000 pounds less than production in the last quarter of 1937 or a drop of 22 per cent.

Although the first quarter production of 1938 is below any quarterly figure for 1936 or 1937, it exceeds the average quarterly production for 1933 and 1934 and is not far out of line with the 1935 average. It also shows the rapidity with which rayon adjusts itself to changes in demand. The rayon industry has attuned itself to the decline in demand more quickly than any other branch of the textile industry.



K. G. URFER, Personnel Manager of the Hawley Pulp & Paper Company, Oregon City, standing in front of the effective safety record board.



TUGBOAT ANNIE
Unmatched for pulping,
bleaching, and deinking.
Only 4 years old . . . yet 72
in service.

BLACK CLAWSON and SHARTLE BROS.

LIKE RINGS ON A MILLPOND . . . Ever-spreading, ever-widening—that is the reputation of Tugboat Annie. In increasing numbers, mill men are acclaiming Annie as the fastest, most thorough of all pulpers. • Tugboat Annie keeps good company. The many other paper mill machines built by Black-Clawson and Shartle Bros. also are sales leaders because of their outstanding performances.

The Black-Clawson Co. and Shartle Brothers Machine Co.

Japanese Staple Fiber Situation

● In contrast to the rayon yarn situation, states the Rayon Organon, the production of rayon staple fiber in Japan is increasing in an unprecedented manner. For the five months ending May of this year, staple fiber production in Japan had already reached 140,000,000 pounds. In May, however, it was evident that, even with Government sponsorship through rulings requiring compulsory mixtures, staple fiber production was exceeding the demand. It was estimated that the monthly consumption of staple fiber for both domestic and export purposes amounted to about 29,000,000 pounds, while the staple fiber production for May would approximate 39,000,000, an oversupply of 10,000,000 pounds.

Therefore, on May 27th the Staple Fiber Manufacturers Association decided on a curtailment rate of 30 per cent on the output of staple fiber in June. This plan of curtailment lasted for less than one month. On June 28th, the Ministry of Commerce, under the "material mobilization plan," announced that cotton yarn and piece goods would be manufactured only for export and military use. For home consumption, all products formerly made of cotton would henceforth be made entirely of rayon fiber.

The Rayon Organon states that, to meet this new demand the Japanese staple fiber producers can produce about 40,000,000 pounds a month with the present installed capacity. Through permitted extensions, it would be possible to add another 5,000,000 pounds per month by the end of the year. Should even this amount be inadequate to meet the demand, it would also be possible to obtain an additional supply of staple fiber from cut filament yarn as made on that machinery now sealed under the yarn curtailment program.

In view of this new staple fiber decree, it was recently announced that the Ministry of Commerce and Industry will soon issue regulations fixing the maximum prices of rayon staple fiber and spun rayon yarns. It is expected, however, that the maximum price will remain at 65 sen (19 cents) per pound, which was the official maximum selling price set prior to the promulgation of the new staple fiber rulings and was to be effective for the period, July to October.

U. S. Rayon Production On Curtailed Basis

● The Rayon Organon states that producers' rayon yarn stocks at the end of June, based on average monthly shipments over the previous twelve months, amounted to a 3.8 months' supply which showed no change from the end of May index. Actual poundage stocks declined during June for the first time since May, 1937.

Based on data from the National Rayon Weavers Association, rayon loom activity in June is estimated at about 55 per cent of capacity. Operations in the staple and lining division were about 58 per cent, whereas production of box loom fabrics averaged around 30 per cent of capacity. Over-all loom activity in June was lower than in May, which, the Rayon Organon states, is seasonally normal.

U. S. Imports of Japanese Staple Down

● During the first quarter of this year United States imports of Japanese staple fiber amounted to 240,000 pounds as compared with 3,937,000 pounds in the same period of 1937. Whereas imports of Japanese staple fiber, says the Rayon Organon, accounted for 67 per cent of our total staple fiber imports in the first quarter of 1937, the Japanese staple accounted for but 11 per cent of the total staple imports for the first quarter of 1938.

There appear to be two principal reasons for this sharp decrease in Japanese staple fiber imports. First, domestic staple producers are now better able to supply a larger proportion of the domestic needs for rayon staple. Second, the cost of producing staple fiber in Japan has increased appreciably, which has consequently narrowed down the price differential in the domestic market between the delivered Japanese staple and the domestic staple.

Japanese Rayon Exports Decline

● The Rayon Manufacturers Association of Japan reports that exports of rayon yarn for the first six months of this year declined 60 per cent in volume and 64 per cent in value compared with the first half of 1937.

Exports of rayon textiles declined 28.5 per cent in both volume and value in the first six months of the current year compared with the corresponding period of 1937.

Japan's Markets For Rayon in 1937

● The principal markets for Japanese rayon yarn in 1937 were British India, Mexico, China, the Netherlands Indies, and Syria, in the order named. Of these five markets, only Mexico during the first quarter of 1938 increased its purchases of Japanese rayon yarn in point of both volume and value as compared with its takings in the March quarter of 1937.

Exports to China increased in volume by 857,800 pounds (66.9 per cent) but they decreased in value by 381,899 yen (49.4 per cent) as compared with shipments to that market in the first three months of 1937. Exports to British India decreased by 3,968,300 pounds (70.4 per cent) and 2,725,987 yen (69.7 per cent). Japan's shipments to Netherlands Indies declined by 357,300 pounds (74.9 per cent) and 273,354 yen (78.7 per cent). Shipments to Syria fell off by 53,300 pounds (34.6 per cent) and 44,731 yen (39.1 per cent).

During the March quarter of 1938 the major markets for Japanese rayon yarn were, in order of importance, China, British India, Mexico, Kwanlung Leased Territory and the Union of South Africa.

Rayonier Registers Trademark

● Rayonier Incorporated recently registered the brand name "CELLUNIER" in England.

Rayon Pulp Prices

● In the May issue of the Rayon Organon news of the change in rayon pulp prices was commented upon as follows:

"As reported in the October, 1937, Organon, the base price of rayon grade bleached sulphite pulp for 1938 delivery was advanced from \$72.50 to \$97.50 per ton. The old \$72.50 figure represented a depression low price and it was logical to expect some advance here due simply to increased pulp production costs.

"The new price of \$97.50, however, was thought to be relatively high by many in the rayon producing trade. Especially was this true when the incidence of the new price in January, 1938, came at a time when rayon production was curtailed, costs had increased and the consuming market was dull.

"Thus the recent action of the pulp producers in voluntarily revising their pulp prices downward from \$97.50 to \$85 per ton for the period May to December, 1938, may be regarded as a sound move. This new economic price gives the pulp producers some price increase over the 1937 too-low price of \$72.50 and at the same time is of some assistance to the rayon producers in their efforts to hold down advancing production costs. In spite of this fact, however, the point still remains that rayon pulp today is more expensive than it was last year and that rayon production costs per pound also have risen due to production curtailment."

Staple Fiber Demand Holding Up Well

● The monthly rate of demand for staple fiber in the United States for the first four months of the year was about equal to the monthly rate of demand for the first four months of 1937. This is held to be amazing by the Rayon Organon in view of the substantial drop in the demand for all other textiles. More of this demand for staple fiber is being supplied by American producers this year than last for imports have dropped 53 per cent below the imports in the first quarter of 1937.

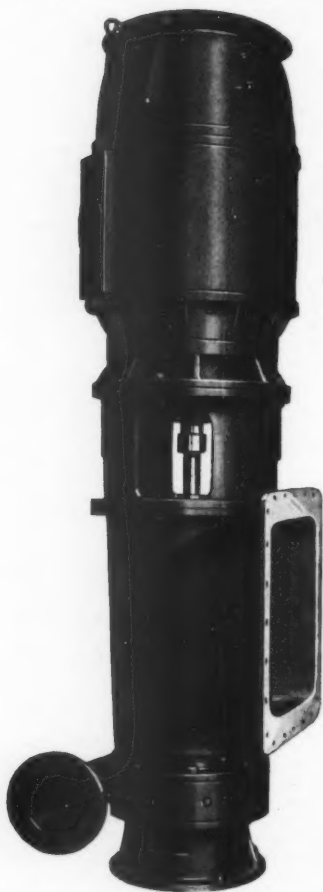
Japanese Rayon Yarn Stocks

● Stocks of rayon yarn on hand at member mills and at public warehouses at Tokyo, Osaka and Fukui totaled 52,796,700 pounds on March 31st, exceeding stocks at end of February by 494,000 pounds, according to the report of the Japanese Rayon Producers' Association.

While this was the largest amount of rayon yarn ever reported as held in stock and is equivalent to about three months' production, it is worth noting that the increase in stocks during March was less than any month since September, 1937.

The actual quantity of rayon yarn held in stock throughout the country undoubtedly was much larger; a press report in March estimated total stocks at 68,000,000 pounds as of January 31st or 20,754,700 pounds higher than the figure of 47,245,300 pounds published by the association. Another press report on April 25th estimated total stocks of rayon yarn throughout the country at approximately 70,000,000 pounds.

This **PULP HOG** *will* *save your \$ \$*



BECAUSE IT

1. Cannot become air-bound!
2. Eliminates surging discharge and overflowing sumps!
3. Replaces dump chests!
4. Is Ruggedly Constructed!

FOR

DECKER WASHER OR THICKENER

● This specially designed pump takes stock directly from the doctor blade of Deckers, Washers, and Thickeners, and pumps it—without becoming air-bound or clogged—directly into the mill system. The unique design of this pump, particularly the large suction chamber, the non-clogging impeller, renewable side plates, and the volute casing, enables the Pulp Hog to receive stock, separate out and exhaust the entrained air through an exhaust pipe, and deliver the stock at a constant rate from the discharge of the pump. These features permit uninterrupted operation.



Typical installation of the Pulp Hog—taking stock directly from doctor blade without becoming air-bound or clogged and pumping it into the mill system.



WRITE FOR NEW BULLETINS COVERING THIS EQUIPMENT

Bingham

705 S. E. MAIN STREET
PORTLAND, OREGON

PUMP COMPANY

World Rayon Production Rose in 1937.

● The world rayon industry reached a new high production total in 1937 with 1,808,740,000 pounds, compared with 1,319,075,000 pounds in 1936, a gain of 37 per cent, according to the Rayon Organon which compiled this data.

Of the 1937 total 1,185,820,000 pounds were filament rayon yarn representing an increase of 16 per cent above the 1936 total of 1,021,015,000 pounds. The increases in yarn production by countries were fairly uniform. Those countries showing the greatest poundage increases were Japan, United States, Germany and Italy, in that order. Spain was the only country in which rayon yarn production declined below its 1936 level, and this may be ascribed solely to the civil war in that country. Norway was added to the list of commercial producers of rayon yarn in 1937.

Staple Fiber Doubled in 1937

● The most significant feature of rayon's 1937 performance, says the Rayon Organon, was the substantial increase of 107 per cent in staple fiber production, the 1937 production amounting to 622,920,000 pounds as compared with a 1936 total of 298,060,000 pounds. Especially by comparison with the nominal production of 8,000,000 pounds in 1929, this 1937 total is truly amazing.

In evaluating this increase in staple fiber production one must be wary of a direct comparison between the growth of staple fiber and that of filament yarn, the Rayon Organon warns. The rayon yarn industry is a much older industry, having been established commercially as early as 1890. Rayon staple fiber, on the other hand, was distinctly a new product as recently as 1930. Thus staple fiber production naturally may be expected to grow at a rapid rate currently, especially during these early years of its initial consumer acceptance.

86% Viscose

● The viscose process accounted for about 86 per cent of the world total, the acetate process at 11 per cent equalled its 1933 and 1935 positions, and the cuprammonium process furnished 3 per cent of the total yarn produced. In pounds each of the processes increased over the preceding year. Nitrocellulose rayon production was nominal. A new plant using this process started production late in 1937 in Brazil.

Production by Countries

● Japan again led the world in rayon production with a yarn and staple fiber production of 509,105,000 pounds or 28 per cent of the total world production as compared with 320,845,000 pounds or 24 per cent of the world production in 1936.

Germany displaced the United States from second place in world rayon production, according to the Rayon Organon data, with a production of 345,000,000 pounds against the United States production of 332,335,000 pounds, including both rayon filament yarn and rayon staple fiber. In filament rayon yarn production the United States continues to be the second largest producer, being only 7 per cent behind Japan.

Staple Fiber Development

● The development of both filament rayon and staple fiber, particularly the

latter, has been outstanding in the three countries striving with the greatest effort to become more independent of imports, or nationally self-sufficient. Germany, Japan and Italy have all endeavored to reduce their imports of cotton and wool, due to shortage of exchange and to other causes.

In 1937 these three countries produced 88 per cent of the staple fiber produced in the world. The governments have aided staple fiber expansion and in the case of Japan has made it mandatory. In the United States the development of staple fiber has been natural, its growth being entirely due to its inherent advantages for certain useage in competition with the other textiles, including a plentiful supply of cotton.

Per Capita Consumption

● The Rayon Organon has determined the relative per capita consumption of rayon yarn and staple fiber in six countries. Germany leads with a per capita consumption of 5.3 pounds. Next is Italy with 3.6 pounds; Japan with 3.3 pounds; United States with 2.7 pounds; Great Britain with 2.5 pounds, and, France with 1.5 pounds.

In 1937 Italy exported 41 per cent of its total production of rayon yarn and staple fiber; Japan exported 35 per cent; Great Britain, 28 per cent; and, France, 23 per cent. In pounds Japan was far in the export lead.

The United States and Germany imported more rayon than they exported, the import surplus being caused by staple fiber imports not by filament rayon yarn.

Visitors at Longview

● Among recent foreign visitors interested in Pacific Coast paper making were T. Ota of the Oji Paper Manufacturing Co., Ltd. and T. Kasahara, also of Tokyo. With them when they called at the Longview mill of the pulp division, Weyerhaeuser Timber Co. were C. Takahashi and George Nishimura of Seattle.

Prairie Crops to Increase B. C. Paper Volume

● British Columbia paper makers expect to do the best business in several years on the Canadian prairies during the next twelve months as a result of the big crop that is likely to be harvested.

Not for at least six years have the wheat crop prospects been as good in Alberta, Saskatchewan and Manitoba. Whenever the crop is good—and prices are right—the wheat belt is in the market on a much larger scale than usual. Fixing of a 80-cent per bushel minimum price is an additional guarantee of cash for the farmers, and newsprint and other paper manufacturers are counting on a share of that cash in the form of increased orders.

Newsprint companies like Powell River do an extensive business in Alberta, and this has been maintained at a good level despite the attempts at credit manipulation by the Social Credit government of William Aberhart. Westminster Paper Company, manufacturer of a varied line of paper specialties, sells as far east as Winnipeg, and other paper wholesalers, such as Smith, Davidson & Wright and Columbia Paper Company, of Vancouver, sell all through the prairies.

Pulp Production in Japan During 1937

● The Japanese Ministry of Agriculture has recently issued the official statistics on pulp production in the Japanese empire during 1937, giving the total as 886,978 metric tons (2,204.6 pounds), an increase of 84,413 metric tons over the 1936 output.

Of this 1937 production 57,294 metric tons were of rayon pulp, an increase of 2,085 tons over the 1936 production.

The Ministry of Agriculture estimates 1938 production at 1,000,000 metric tons of which 114,500 tons will be pulp for rayon and staple fiber. Some doubt is said to be expressed as to the accuracy of the official estimate for 1938, owing to delay in the arrival of certain machinery required by new pulp manufacturing companies.

More recently trade reports have indicated the Japanese government has decided to check the establishment of new pulp plants and the expansion of existing mills owing to fears that there might be a scarcity of lumber in the near future. Apparently several companies recently granted licenses to manufacture pulp from straw and other substitutes for wood have reverted to the use of wood.

Crown Men Vacation

● "Heinie" E. Ostenson, Camas paper mill superintendent for the Crown Zellerbach Corporation, spent early August on the coast at Taft, Oregon, taking in a bit of sea air while on vacation.

G. N. Julien of the office staff recently returned to the plant from a vacation trip on the beach, and George Charters, assistant mill manager, is back from a summer jaunt to California.

At the West Linn mill, Clarence Bruner, mill manager, was missing from his desk earlier this month, taking a few days' vacation from the plant.

Pioneer Rubber Mills Celebrate Golden Anniversary

● Fifty years ago, in 1888, a group of men with vision of the need for the manufacture of mechanical rubber goods on the Pacific Coast, founded the Pioneer Rubber Mills. Through the manufacture of quality products the company has served all industry in the West and has grown along with Pacific Coast business until it now sells throughout a large part of the United States, in the Orient, South America, Australia, New Zealand, South Africa and in Europe.

Sales offices are maintained in Portland, Seattle, Tacoma, Los Angeles, Salt Lake City, Denver, St. Louis and Chicago and distributors cover other key centers. General offices are in San Francisco and the large mechanical rubber goods plant is located at Pittsburg, California.

The Pioneer Rubber Mills have served the pulp and paper industry on the West Coast from the beginning, supplying belting, hose and packing of all types, as well as a large number of special products.

Through their proximity to the pulp and paper industry they have been able to render satisfactory service, and this in turn has resulted in Pioneer's steady growth and the regular employment of a large number of men.

Newsprint Men to Study Oriental Market Situation

Oji Paper Company Executive
Visiting Coast

● British Columbia newsprint producers intend to find out what chances the Oriental market has of staging a come-back.

Selling to the Far Eastern countries has been virtually at a standstill for more than a year. At first the pulp and paper makers who have long regarded China and Japan among their most important buyers were inclined to sit back and take their loss. The Sino-Japanese hostilities, they thought, would probably last a few months and then everything would clear up again and the market would re-open. That sort of thing had happened before, they argued, and it would probably happen again.

But that was a good many months ago. As time passed, with the market growing from bad to worse, the paper and pulp men became more restless. For some time after the outbreak of the "war" it had been possible to ship paper to China via Hongkong and Canton. The blockade of Shanghai had made it possible to ship through the usual channels, but the Hongkong route was a good alternative, even though orders were drastically curtailed.

Then the Japanese threw a blockade around Canton too, bombed the depots and the railroads and cut off communications with interior China, where much of the paper was destined. Today, no paper at all is entering China from British Columbia and it is doubtful whether paper in any considerable volume is entering the country from any other source.

● According to executives of Powell River Company, one of the biggest North American distributors of paper to China in normal times, supplies at Shanghai were large at the outbreak of the campaign, but long ago they must have approached the vanishing point. Consumption of paper has, of course, been sharply reduced—especially newsprint. Not only have newspapers in China ceased publishing. Many of their plants, it is reported, have been wrecked completely and the smashed machinery returned to Japan as scrap.

So far as Japan is concerned, that country simply hasn't the money to pay for pulp or paper as a result of heavy war expenditures and the concentration of all financial resources on munitions and other materials essential for the prosecution of the Chinese invasion. Japanese buyers of pulp told B. C. manufacturers long ago that they would like to buy as much as usual for the manufacture of rayon, but that they could not get the necessary permits for the export of sufficient money to pay for the pulp.

Early in the hostilities, Japanese capital was reported ready to establish a pulp mill on the British Columbia coast and ship the pulp to Japan. There was another report that the Japanese would merely log the area and ship the logs to the pulp mills. Nippon Soda Company is heavily interested in pulpwood on Queen Charlotte Islands and northern Vancouver Island, but so far practically nothing has been done to develop these properties, ostensibly for the same reason that the Japanese are not buying pulp—lack of money for foreign purchases. During the last few weeks British Columbia has shipped some hemlock logs to Japan, but not from timber land held by Japanese, and whether it is used for pulp manufacture is not stated.

Japanese continue to be interested in British Columbia as a source of raw material, but apart from their interest they do not seem to be doing anything very definite about it. I. Fukukita, counselor of the potent Oji Paper Company of Japan, has been spending a few days in British Columbia, calling on newsprint men and discussing business in a general way, but has not disclosed any further motive for his trip than to accompany his daughter to the Pacific Northwest where she will attend a university. Two or three years ago Mr. Fukukita and other officials of the Oji company made an extensive tour of the British Columbia coast, going as far north as Alaska.

● Up until now British Columbia paper men have been disinclined to develop new markets to replace

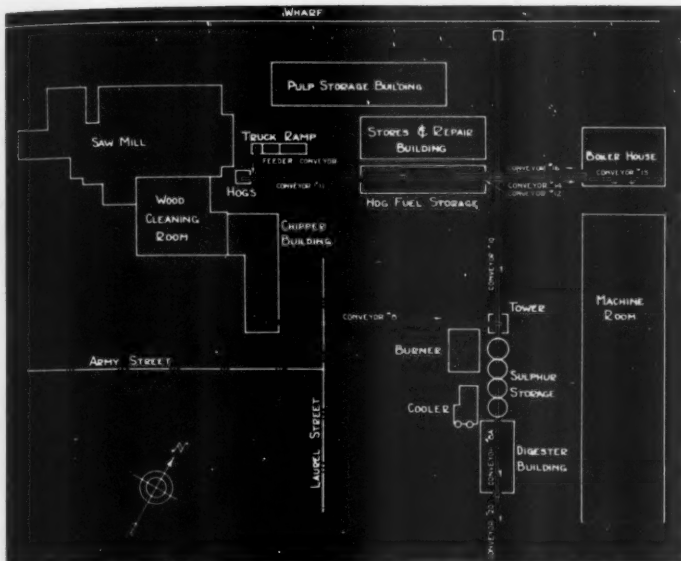
those of the Orient because they feel satisfied that they will eventually be an important factor in their business and they do not wish to disrupt their connections there by entering into long-term contracts with other customers that would preclude their return to China and Japan when conditions are right again. Both Powell River Company and Pacific Mills, Ltd., the British Columbia newsprint producers, have been operating on a five-day week basis for several months—almost an unprecedented situation on this coast, and Powell River has had several shutdowns of two weeks' duration. These moves have been partly due to the general decline in buying in the United States and other markets, but the total collapse of the Oriental market has been one of the factors most directly responsible for the severe curtailment. No attempt is made to hide the fact that cessation of buying in the Orient has been the prime cause for the complete shutdown the past two months of the Port Alice and Woodfibre mills of the British Columbia Pulp & Paper Company, which were only recently converted for the manufacture of rayon pulp and bleached sulphite.

H. J. McKenzie, manager of the Export Sales Company, representing Powell River and Pacific Mills in the trans-Pacific field, is now on his way to the Far East with a view to finding out just what the possibilities are for recovery of the Chinese and Japanese markets. He will tour both countries to as great an extent as war conditions will permit. He will endeavor to contact most of the men who normally buy newsprint on this coast and in addition will see government officials, trade agents and business men capable of sizing up the long-term situation and telling just what chance Pacific Northwest pulp and paper has to regain its position.

Future policy of the newsprint companies towards the Orient will probably be guided a good deal by the report which Mr. McKenzie brings back. The recuperative powers of the Orient, especially China, are well known. Mr. McKenzie may

CONVEYORS and DRIVES by LINK-BELT

at Puget Sound Pulp & Timber Co.'s 40,000 Ton Mill



Plan of 40,000-ton unbleached sulphite mill showing the location of various conveyors

Proved in service in their original mill . . . Link-Belt equipment was again selected by Puget Sound Pulp & Timber Co., for the new 40,000-ton unbleached sulphite mill, at Bellingham, Wash. (Cavin Marshall & Barr, Engineers).

Included in this installation are Link-Belt anti-friction belt conveyors, rivetless type chain conveyor and screw conveyor units for handling chips, hogged fuel and sulphur. All the conveying equipment is driven by Link-Belt motorized speed reducers and Silverlink roller chain drives. Consult Link-Belt on your material handling and power transmitting problems.

LINK-BELT COMPANY

SAN FRANCISCO SEATTLE PORTLAND
LOS ANGELES OAKLAND

7486



Belt conveyor (No. 8-A) and traveling plow handling chips over digesters. Plow gates also discharge over head pulley to conveyor No. 20.

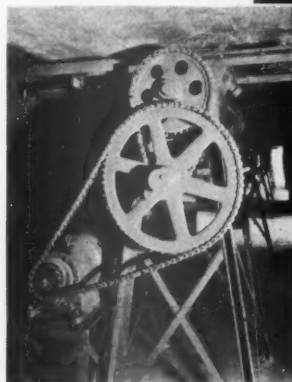


24" wide belt conveyor (No. 10), on 440' centers, handling bulk sulphur from ship to storage. Capacity 150 tons per hour.



Belt conveyor (No. 10) showing traveling plow discharging sulphur to storage bins.

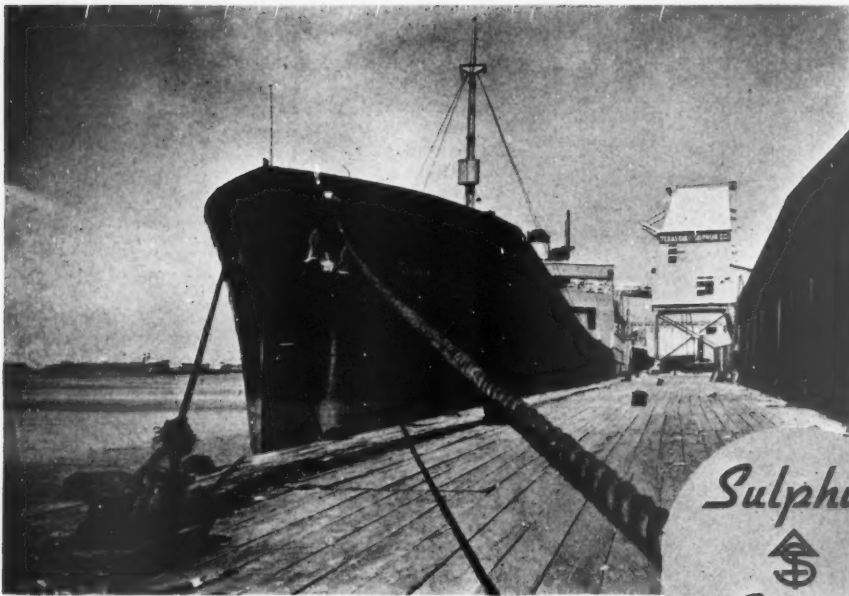
Below: Motorized speed reducer and Silverlink roller chain drives operating 72-ft. long screw conveyor under sulphur storage bins.



Above: Upper run of double strand Rivetless chain flight conveyor (No. 15) in boiler room handling hogged fuel from conveyor No. 14. Fuel is returned on lower run and drawn off through rack and pinion gates as required. Excess fuel is returned to storage on conveyor No. 16.



At left in above view is 30-inch wide belt conveyor (No. 11), handling hogged fuel from mill and track dump to storage. Belt conveyor No. 16 returning excess fuel from boiler house to storage.



BIG SHIPS *to Carry* Big Tonnages

Second to none are Texas Gulf's marine facilities for moving its pure Sulphur in big tonnages from Galveston to all parts of the world. Ample stocks on hand at the docks eliminate delays. Modern machinery fills the holds quickly. Ships are soon underway.

These extensive shipping facilities provide a real service to users of Sulphur in the United States. Ships keep several transfer depots on both coasts well-stocked so that in emergencies buyers can get their requirements very quickly.

Texas Gulf's large enterprise is an enterprise of service.

Research is an important part of Texas Gulf Sulphur Company's activities. New arts in the use of Sulphur are being developed involving not only the melting and burning of Sulphur but also its application in new fields. The recent use of Sulphur in the centrifugal casting and lining of pipe suggests to engineers new applications for this element.

T **TEXAS GULF** **SULPHUR** **C.**
75 E. 45th Street New York City
Mines: Newgulf and Long Point, Texas

find that the outlook for resumption of trade on a large scale within the next few months is promising. He may, on the other hand, see no sign of stability and a return of profitable markets for years. If the latter is his finding the paper makers may be forced to adopt an entirely dif-

ferent course and divert their attention, for the next few years at least, to other fields.

But, first of all, the paper men want to learn the facts. "When business is normal, the Orient takes about one week's production at Powell River every month," re-

marked William Barclay, manager of Powell River Sales Company. "We've got to get that trade back or look for it elsewhere. We can't wait forever."

Mr. McKenzie may have the answer to that problem on his return some time this fall.

Zeigler Felt Guide Roll Adopted by Machine Builders

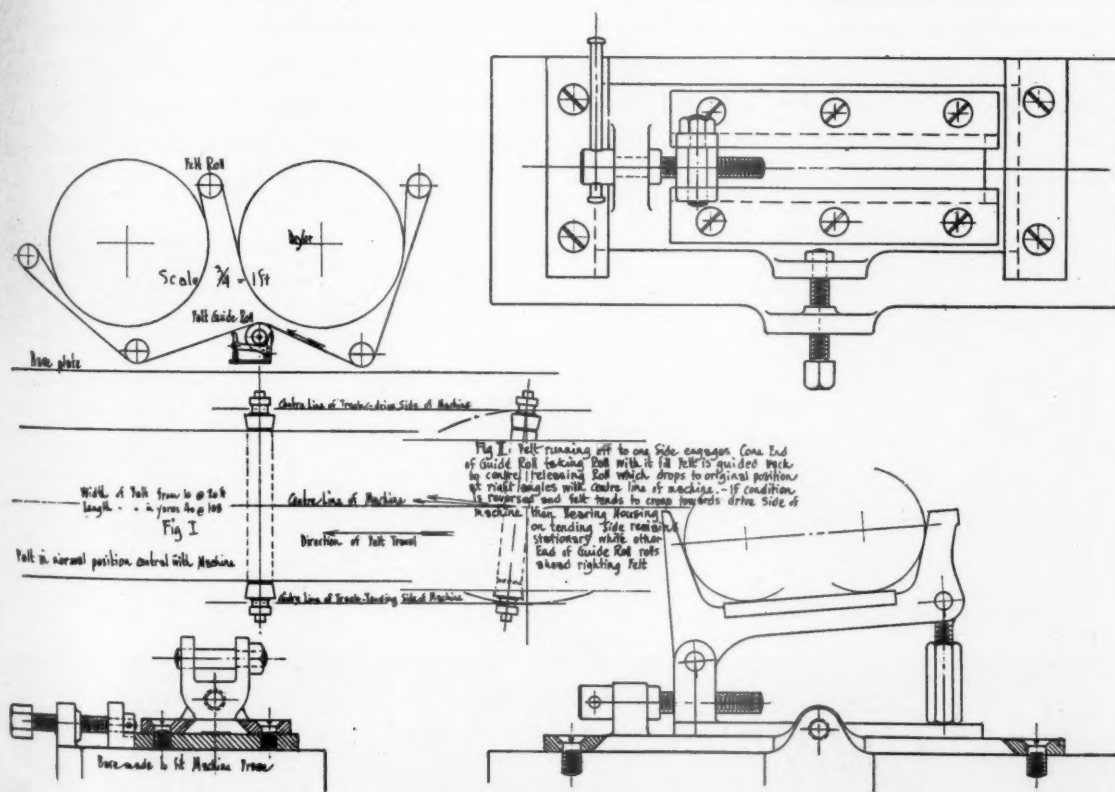
● A felt guide roll which automatically keeps paper machine felts in proper alignment, thus preventing wear and operating difficulties, was developed several years ago by John A. Zeigler of the engineering department of the Crown Willamette Paper Company division of Crown Zellerbach Corporation at Camas, Washington. Recently this guide roll has been adopted as standard equipment for paper and board machines by the five machine builders in this country, indicating its importance as one of the signi-

ficant advances during the past few years.

The accompanying drawings illustrate the theory upon which its operation is based, and the manner in which it keeps the felt in its proper channel, or position. Essentially, it consists of a guide roll, at either end of which is a cone roll against which the felt presses if it creeps to either side. When it engages the cone end, that end of the guide roll moves forward, guiding the felt back to its proper position.

Speaking of the creation of this device, Mr. Zeigler says, "In paper

making and similar machines there is a tendency for the felt to creep to one end or the other of the rolls carrying it, thus getting out of its proper position. If this is not corrected, the felt finally comes into contact with one side or the other of the machine frame, resulting in trouble and damage. Guide rolls, as is well known, have been used to keep the felt in proper position, but those heretofore employed have been complicated and involved operating difficulties, or else tended to cause excessive or uneven wear on the edge of the felt.



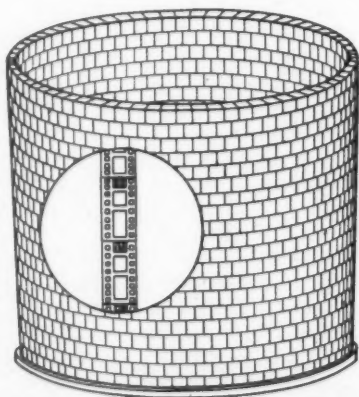
The Zeigler Felt Guide Roll was developed by John A. Zeigler of the Engineering Department of the Crown Willamette Paper Company, Division of Crown Zellerbach Corporation at Camas, Washington



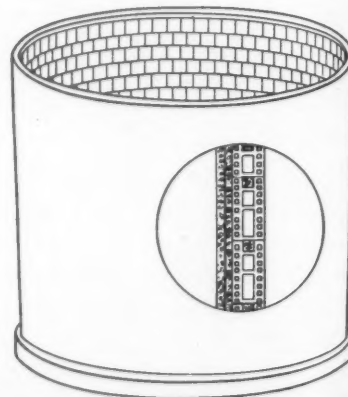
STRONGER, MORE LASTING, MORE SATISFACTORY

Stebbins SEMCO Hollow Tile Tanks — whether single or double wall — of conventional or special design — circular or rectangular — of ordinary or special tile walls — ALL are better tanks because they are designed and erected by an organization with over 54 years of successful, specialized service in supplying corrosion-resisting linings and tanks to the leading pulp and paper mills.

Stebbins SEMCO Concrete and Tile Tanks — of 10,000 to 125,000 cubic feet capacity—designed and erected by Stebbins under the Hewett System of Prestressed Design — permit the practice of economies and operating methods never before possible. They are economical in first cost — designed to meet individual operating conditions — and exceptionally long lived.



Designs, specifications and estimates for the erection of any tile or concrete and tile tank or reservoir — large or small — submitted on request.



SEMCO

Stebbins Engineering Corporation

TEXTILE TOWER

SEATTLE, WASHINGTON

"The object of my invention is to combine directly with a guide roll, means by which either end of the guide roll will automatically be moved forward with the creeping of the felt to that end of the roll, by the frictional drag of the felt, and thereby cause the axis of the guide roll to be thrown out of perpendicular with the direction of felt travel.

● "Since the tendency of the traveling felt is, in general, to follow a path perpendicular to the axis of rotation of the roll with which it is in frictional contact, the moving forward of one end of the guide

roll will cause the felt to creep towards the other end, thus bringing it back into alignment.

"A further object is to have the guide roll function automatically so as to cause the axis of rotation of the guide roll to again assume a position perpendicular to the direction of felt travel, as soon as the felt is brought back into proper alignment.

"Another feature, in addition to neutralizing the tendency of the felt to creep to one side or the other of the machine and bringing it back into proper alignment on the guide

roll, all done automatically, is that it is done in such a manner as to avoid injury to or uneven pulling of the felt. This it does with such dependability that no supervision or vigilance on the part of the machine tender is required."

The guide roll described is simple in operation and construction, and has proved to be particularly effective in reducing operating problems and felt wear. Its adoption as standard equipment by the machine builders is complete recognition of a worthy contribution to the industry by Pacific Coast mill engineering.

"Forest Resources of the Pacific Northwest"

is the title of a comprehensive report prepared by the Pacific Northwest Regional Planning Commission and issued through the National Resources Committee late in July

AS the great forests of the Pacific Northwest, containing about half of the standing softwood saw-timber in this country, are subjected to gradually expanding utilization, including their growing use in pulp manufacture, the public's consciousness of their present and potential value grows apace.

This consciousness gives rise to reports covering the forest resources of the Pacific Northwest. They are becoming more frequent, showing a long overdue public interest in this region's greatest natural resource—the forests.

Through all of them runs the scare theme that our timber is approaching exhaustion, that our Pacific Northwest forests which now supply some 40 per cent of the value of all the region's products will disappear in a generation.

Few studies have more than touched upon the economic side of forestry in the Pacific Northwest. This is fundamental, for in the long run, and forestry can be properly approached only from the long term point of view, the economics of the forests will control all measures for their utilization and perpetuation, government or private.

"Forest Resources of the Pacific Northwest," a study released July

25th by the Pacific Northwest Regional Planning Commission through the National Resources Committee starts out with the usual scare that timber is being utilized faster than it is being grown, but it presents a very broad and well balanced picture of the forestry situation in the Pacific Northwest States, Washington, Oregon, Idaho and Montana.

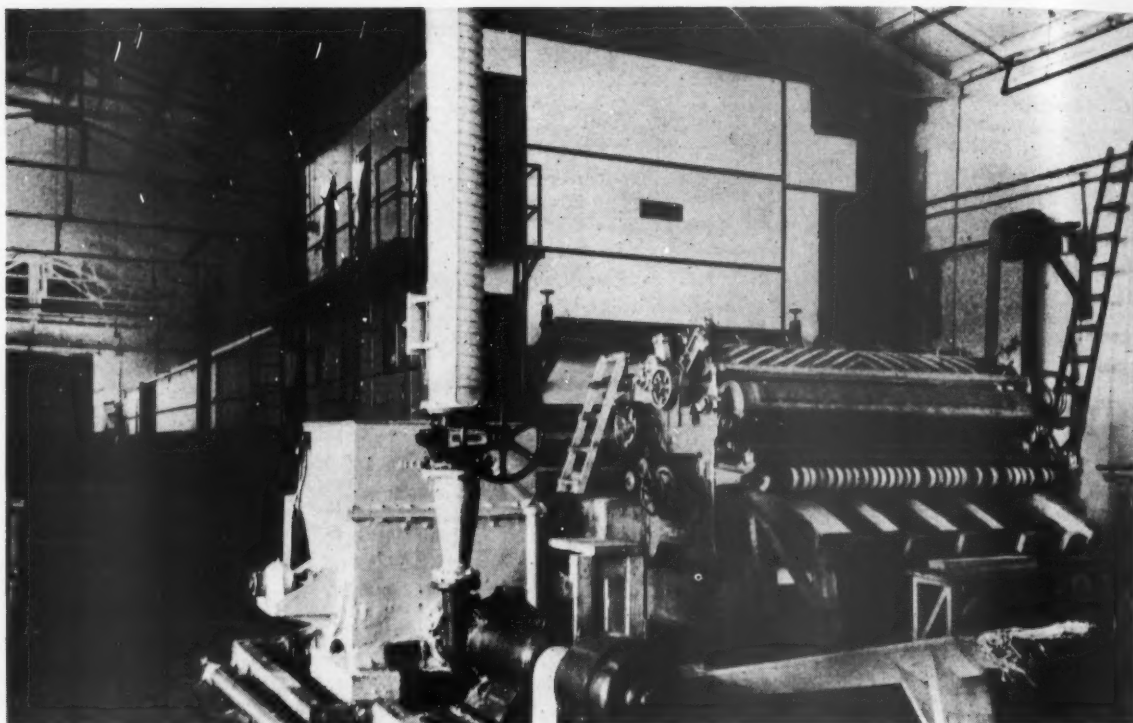
● The economic side is not side-stepped but approached fairly and treated up to what the authors considered the limits of the report's scope. The economic studies were not carried to the point of showing that a large part of the desired reforms, such as sustained-yield operation and greater return to the public in money and employment per cubic foot of timber, would come logically and without governmental regulation of all forests, were the United States to produce a far larger proportion of the wood pulp it consumes. We are importing the equivalent of nearly four and three-quarter million cords of wood in the form of pulp and approximately four million cords more in the form of newsprint. Add to this the 1937 imports of pulpwood which amounted to 1,522,868 cords and we have roughly a total of ten and a

quarter million cords of wood imported as pulp, newsprint or pulpwood, without taking into consideration imports of lumber.

Against this ten and a quarter million cords imported, we have an estimated 1937 consumption of domestic pulpwood in the pulp and paper industry of 8,377,132 cords. We import well over 25 per cent more wood than we produce ourselves for the pulp and paper industry. And yet the United States has the greatest timber resources of any nation except Russia.

These down-to-earth facts somehow never seem to appear in a governmental report although in two that come to mind, the Hale report (Senate Document 115) of 1935 and the Tariff Commission's report of 1937 (Report No. 126 — Wood Pulp and Pulpwood), the opportunity for greater perpetual economic returns from American forests through expansion of the pulp, paper and rayon industries, can be easily read between the lines.

But the report in hand states frankly that an effort has been made to avoid controversial points. Rather, the report makes an effort to drive home the need for action along the lines that are not controversial ignoring pertinent facts such



One of the TWO Vertical Type FLAKT DRYERS installed in the B. C. Pulp & Paper Company's Woodfibre mill handling rayon grade bleached sulphite.



The FLAKT DRYER

THE NEW PATENTED DRYING MACHINE FOR PULP GIVES SOMETHING NEW TO PULP INDUSTRY

FLAKT to pulp means a mild drying, higher quality and to the management it means means less expense and increased profit.

FLAKT dried pulp is easier to dissolve, does not lose color or strength and gives 20-40 per cent saving in steam cost.

The St. Regis Kraft Company of Tacoma, Washington, installed the first two FLAKT dryers on this continent. They dry bleached kraft pulp. Two other FLAKT dryers are now operating on unbleached sulphite pulp in the new Bellingham, Washington, mill of the Puget Sound Pulp & Timber Company; two Vertical Type FLAKT end dryers were recently installed in the Woodfibre rayon grade bleached sulphite pulp mill of the British Columbia Pulp & Paper Company; and, a FLAKT dryer is handling bleached soda pulp in the mill of the Howard Smith Paper Mills, Limited, in Cornwall, Ontario.

These are but a few examples out of a hundred installations in ten different countries on three continents.

The FLAKT DRYER Is Developed by

AB SVENSKA FLAKTFABRIKEN
STOCKHOLM, SWEDEN

Represented in

The EAST by Paper Machinery, Ltd., Montreal, P. Q.

The WEST by A. H. Lundberg, 3311 1st Av. S., Seattle, Wash.

as timber imports either in raw or manufactured form.

The report states that much of the merchantable timber of the Northwest has reached maturity and such timber lands cannot reach their potential productivity until existing ripe stands have been removed.

It goes on to say that by improved forest management the rate of growth might be increased to where it would sustain production at the present level, or even to about 16,000,000,000 board feet per year. The report states that current annual production is about two and a half times growth, but it does not state upon which basis this is figured. Forest service men have stated that production is four times annual growth. The president used this figure in his recent forest message to Congress. Apparently there is a difference of opinion on this point.

● Some figure growth only in trees 16 inches and up in diameter at breast height, which would obviously eliminate the fast growing large stands of small timber in the Pacific Northwest, and would present an untrue picture of the forestry situation. Sold hold that current growth, considering all the second growth, exceeds production.

The Pacific Northwest Regional Planning Commission strongly emphasizes the joint responsibility of the public and private forests interests.

"The plan herein outlined," says the report, "is planned to rely, in securing a reasonably prompt and adequate solution of our forest problem, upon private forest ownership, management and operation to the maximum extent practicable, with public action to the extent necessary (a) to remove unreasonable economic obstacles and to create reasonably favorable conditions for sound private forest management, (b) to acquire forest land of such character and location as to contribute effectively to the development of 'cooperative sustained yield units,' and (c) to acquire forest lands of such character as to be impracticable for private ownership and management. The private owner should do and should be encouraged to do as much as practicable; of that which the private owner cannot do the state should do all that it can; the Federal government should do what cannot be done by the other two."

The role of private forest owners and industries in a broad program

for solution of pressing forest problems, in the Commission's opinion, lies in adopting measures for:

● "1. Improving and extending the practice of forestry in private forests. This implies, particularly, extension of selective logging practices and sustained-yield principles, better protection of growing stock, restocking of logged-off lands, and improvement of protection against fire, pest and disease.

"2. Research in entire field of forest utilization with the view of waste elimination, development of new products, and more economic use of the forest resource, with consequent greater returns to industry and community.

"3. Improving the industry's manufacturing and merchandising methods and activities with the view of greater industrial and community stability.

"4. Improving financial structures with a view toward elimination of overcapitalization, reducing pressure for liquidation of holdings.

"5. Organization and cooperation with forest industries in order to carry out these objectives and to inform the industry and the public concerning problems and needs."

● Quoting from the Commission's own summary of its report, "While the report finds in general that the present condition of the region's forest resources is unsatisfactory, it does emphasize that great progress has been made in forestry during the past three decades. Solid accomplishments, are evident in the fields of fire protection; cutting practice; insect and disease control; reduction of waste; development of supplementary industry, such as pulp and paper; in the improvements in taxation of cutover land and young, growing timber; in the stabilizing of ownerships; and in the inauguration of sustained-yield management in certain areas. In this general forestry program, there has been built up a promising cooperative relationship of all private and public interests concerned."

The summary goes on to say, "The program proposed in the Commission's report to protect these values and assure a permanent timber products industry is built around the idea of sustained-yield and multiple use. In defining its objective, the Commission says:

"Sustained-yield should not be considered as an immediately available, specific cure, but as a general remedy which should be applied as

rapidly as possible. The lumber industry as a rule has been migratory, moving on to uncut stands whenever one area was cut over, leaving behind abandoned communities and public facilities. The end of the virgin timber is in sight in many parts of the region. The idea of sustained-yield is to supply local industry with raw material in perpetuity in order that dependent industries may operate continuously. Sustained-yield is the strategy of a long campaign which should get under way promptly and be pushed systematically, relentlessly, resourcefully and yet flexibly over a long period of years. . . . It is substituting a system of living on forest income instead of forest capital."

But the Pacific Northwest must have sufficient local industry to absorb the available raw material in order to achieve the ideal of living on forest income instead of forest capital. There must be local industry large enough to utilize the raw material from the forests to provide the money for sustaining this long range program. Today there are not enough wood using industries in the Pacific Northwest to utilize the available raw material. Western hemlock is an example. The old, mature decaying timber that is no longer adding wealth to our forest land needs a larger market, as well as a more profitable market, before it can be cut to make way for the fast growing new crop.

We wouldn't think it sensible to allow our wheat crop to stand in the fields while we imported wheat, but that is what we do with our timber. The difference is that trees are a longer cycle crop and we haven't yet as a people learned to look that far ahead, seventy years in the case of Western hemlock.

Imports of wood and wood products are a major obstacle to the practical application of the ideal program as outlined by the Pacific Northwest Regional Planning Commission's report. Remove this obstacle and we would soon begin applying intelligent planning to our timber resources.

● The timber problem in the Pacific Northwest is fundamentally economic. It must be solved from that viewpoint.

"Forest Resources of the Pacific Northwest" was printed by the United States Government Printing Office and copies may be obtained from the Superintendent of Documents, Washington, D. C., for twenty-five cents per copy.



Cotton Dryer Felts

Cotton and Asbestos



Asbestos Dryer Felts

DRYER FELTS

● No one type of dryer felt will produce the best results and show the most favorable costs under every paper machine condition. Cotton felts are most suitable and lowest in cost for many applications. In other positions, asbestos dryer felts are superior.

QUALITY COTTON DETERMINES FELT LIFE

- Asbestos felts rely on cotton for their strength, and on asbestos only to protect the cotton; hence the cotton should be the best obtainable.
- The California Cotton Mills Company manufactures both cotton and asbestos dryer felts, in each of which only the highest quality long staple fiber cotton is used.
- The asbestos yarn used in California Cotton Mills felts is interlocked with the cotton fiber, to eliminate peeling. These asbestos dryer felts positively will not shrink or stretch.

Manufactured by

CALIFORNIA COTTON MILLS CO.

OAKLAND, CALIFORNIA

Distributed by

PACIFIC COAST SUPPLY COMPANY

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SAN FRANCISCO

664 PITTOCK BLOCK
PORTLAND

708 WHITE BUILDING
SEATTLE

Congressional Committee To Study Forest Land Problem

Senator McAdoo, chairman of Senate committee, states work will begin immediately after November election on report due April 1st, 1939

AT the request of President Roosevelt, the last congress authorized and directed an investigation of the forest land problem of the United States.

This investigation will start immediately after the November elections. The investigation will not get under way until that time because several members of the committee, including the chairman, Senator W. G. McAdoo of California, are running for re-election. However, it is probable that a sub-committee will attend the coming national meeting of State Foresters in Idaho this month.

Senator W. G. McAdoo in a statement to West Coast Lumberman regarding the coming investigation, said that the industry has nothing to fear from this investigating committee. He said that the committee is interested in conservation and how to handle the problem in a way that will be satisfactory to the lumbermen. One of the objectives of the study will be, he said, to try to discover means of preventing needless waste in the lumber industry.

Personnel of Committee

● The investigating committee consists of the following:

For the Senate — McAdoo of California, Smith of South Carolina, Bankhead of Alabama, Pope of Idaho, McNary of Oregon.

For the House—Fulmer of South Carolina, Doxey of Mississippi, Pierce of Oregon, Reed of New York, Engelbright of California.

Object of Investigation

● This committee is directed by congress to investigate the present and prospective situation with respect to forest land of the United States, its condition, ownership, and management, as it affects a balanced timber budget, watershed protection, and flood control and the other commodities and social and economic benefits which may be derived from such lands, with a view to ascertaining, among other things:

(a) The adequacy and effective-

ness of present activities in protecting public and private forest lands from fire, insects, and diseases, and of cooperative efforts between the Federal Government and the States.

(b) Other measures, Federal and State, which may be necessary and advisable to insure that timber cropping on private owned forest lands may be conducted as continuous operations, with the productivity of the lands built up against future requirements.

(c) The need for extension of Federal, State and community ownership of forest lands, and of planned public management of them.

(d) The need for such public regulatory control as will adequately protect private as well as the broad public interests in all forest lands.

● (e) Methods and possibilities of employment in forestry work on private and public forest lands, and possibilities of liquidating such public expenditures as are or may be involved.

(f) The need for additional legislation, authorizations, appropriations, research, and other measures to insure adequate administration and development of the forest lands in Federal ownership.

The committee is authorized to hold hearings, employ experts, subpoena witnesses and records, take testimony, and to request the aid of other governmental agencies dealing with forest problems. There is appropriated for the use of the committee the sum of \$10,000 to be paid equally from the contingent funds of House and Senate.

The committee is directed to report back to Congress the results of its investigation not later than April 1, 1939, and to include in its report recommendations for legislative action.

Preliminary Discussion

● Recently F. A. Silcox, Chief Forester of the United States, called a meeting at Washington, D. C., of a number of forestry groups for the

purpose of outlining plans for furnishing information to the committee. Mr. Silcox told the group he thought the forest agencies might be able to recommend a legislative program to the committee at least on most points thus saving the committee's time for careful investigation of such controversial points as may develop. After discussion the meeting came to the following conclusion on the points mentioned in the congressional resolution:

Points to Consider

● Division of material with reference to instructions of Congress:

(a) The adequacy and effectiveness of present activities in protecting public and private forest lands from fire, insects, and diseases, and of cooperative efforts between the Federal Government and the States.

It was the sense of the meeting that under item (a) of the Congressional Resolution special consideration should be given to the following:

1. Clarke-McNary Act cooperation in protection of state and private forests from fire, insects and disease.

2. Other cooperation under Clark-McNary Act.

3. Norris-Doxey Act cooperation in farm forestry.

4. Farm forestry under the Agricultural Conservation Program of the AAA.

(b) Other measures, Federal and State, which may be necessary and advisable to insure that timber cropping on privately owned forest lands may be conducted as continuous operations, with the productivity of the lands built up against future requirements.

Proposed Program

● It was suggested that new legislation, increased appropriations or suitable administrative policies be proposed to the Committee to deal with the following:

1. Federal cooperation with States and private forest land own-

WHERE UNIFORM PERFORMANCE IS ESSENTIAL

• Paper dyers have become accustomed to obtaining constantly uniform dyes—from the standpoint of quality and application and fastness characteristics.

Careful chemical control during manufacture and rigid adherence to high standards make this uniformity possible. This is particularly significant where stringent specifications have to be met, such as low acidity in many finished papers which necessitate running at a high pH on the machines. Dyes of predetermined quality are essential here.

The Du Pont Company offers the paper industry a complete range of direct dyes possessing particularly good fastness and application properties. Of considerable importance in this connection is the fact that they do not change shade at pH values up to 6.5 to 7.0. Thoroughly equipped laboratories with trained staffs are also maintained to assist mills in matching shades and working out special color formulas. These are entirely at your service.



E. I. DU PONT DE NEMOURS & CO., INC.

Organic Chemicals Department... Dyestuffs Division

WILMINGTON, DELAWARE, U. S. A.

ers in forest management on private land.

2. Conjunctive management of Federal, State and private lands for sustained yield.

3. Adequate system of forest credits.

4. Modification of Federal taxation system to encourage timber cropping on private lands.

● 5. Research in forest influences, management, forest survey, products, domestic and foreign markets, economics, and farm forestry.

6. Expansion of the authority for cooperative distribution of tree planting stock to non-farm land owners.

(c) The need for extension of Federal, State, and community ownership of forest lands, and of planned public management of them.

Development of a coordinated program of acquisition and administration of Federal, State and Community Forests, with due consideration to Fulmer Act purchases and the administration of Resettlement areas.

(d) The need for such public regulatory control as will adequately protect private as well as the broad public interests in all forest lands. This question must be considered.

● (e) Methods and possibilities of employment in forestry work on private and public forest lands, and possibilities of liquidating such public expenditures as are or may be involved.

Careful consideration of practicability of expending public works funds to employ people in rehabilitation and management of private forest lands on liquidating or semi-liquidating basis.

Other Subjects for Study

● The attention of the committee should be directed to the following matters, under the general instructions given it by the congress:

1. Flood and erosion control.

2. Grazing.

3. Development of definite legislative and administrative policies which will eliminate duplication and conflicts of effort of governmental agencies and assure the most effective coordination of all such agencies in the conservation and utilization of our forest resources as

an integral part of a national program.

4. Recreation and wildlife.

5. Expansion of Education in Forestry.

Specific Recommendations

● Specific recommendations are made for authorizations and appropriations by the Congress to meet certain problems, as follows:

1. Amend the Clarke-McNary law so as to provide \$9,000,000 authorization for fire protection, and \$1,000,000 for protection from insects and tree disease. Under this authorization there should be appropriated immediately \$6,500,000 for fire protection and \$1,000,000 for protection from insects and tree diseases.

2. Appropriation of \$2,500,000 under the Norris-Doxey Law.

Hauff Sees Washington From Trailer

● Harold Hauff of the research department of the Weyerhaeuser Timber Company, is back in Longview after a trailer vacation trip with his wife and another couple. The four traveled 1,700 miles by car and auto trailer, without leaving the state of Washington. Their travels took them into eastern Washington, the Puget Sound area, Mt. Rainier and numerous other sections of the state.

SUPERINTENDENT WANTED

Large Oversea Paper and Board Manufacturer requires services of experienced paper mill superintendent with special knowledge of operating high speed paper machines making light weight papers and tissues. Permanent employment under good living and salary conditions for suitable man. Transportation expenses paid for successful applicant and family. Mills of company are operating in English speaking country where cost of living is slightly lower than North America. Address application accompanied by full references and details of experience, age, salary required, to Box No. 10, care of Pacific Pulp & Paper Industry, 71 Columbia Street, Seattle, Washington.

Newsprint Prospects

● British Columbia newsprint manufacturers, in view of their enforced curtailment of production and the dismal market picture presented in the Orient, are rather guarded in their forecast of the immediate future, although most of them are ready to hazard the guess that conditions have at last rounded the turn for the better.

Harold Foley, executive vice-president of the Powell River Company, and other leading figures in the industry, feel that the worst is over and that a gradual improvement will begin to assert itself as the year advances.

With marketing conditions as they are, not much is heard regarding price, but it is unlikely that any move in that direction will be made until October, when most of the contracts come up for revision.

The newsprint industry looks for increasing consumption of paper during the last quarter of the year, as usual, and this coupled with declining inventories in publishers' hands in the United States is expected to lead to a gradual increase in demand. Even at the rate of \$50 a ton, prospects are bright for higher earnings for most of the companies next year. In an industry such as newsprint operating rate has about as much effect on earnings as price. Thus, despite an increase in price from \$42.50 a ton to \$50, average plant operation at only 60 per cent offset the gains that had been expected. But improvement is expected for the balance of the year, even though the Pacific coast mills may not feel the pickup as early as some others on account of the temporary elimination of the Far Eastern market.

● Substantial improvement in the inventory position would enable the mills to increase their operating rate and, with the price at \$50, make it possible to bring about a much better economic position in the industry than it has enjoyed for years.

Newsprint makers in Canada have been encouraged to hope that prices in 1939 may stay at least as high as \$50 a ton by the announcement that in England for the first quarter of 1939 the price will be 11 pounds 10 shillings, or the same price as prevailed for a considerable period this year. This works out at a little more than \$50 a short ton of 2,000 pounds, on which Canadian prices are based. The present price in England was established at a time when pulp prices were a good deal higher than now. As the English mills must purchase their groundwood and sulphite pulp from the outside, the pulp price is usually a prime factor in setting the English price.

Eastern Canadian manufacturers report considerable progress in negotiations with consumers whereby the arrangement, long ago established, whereby a large buyer can, through a single contract, upset the whole price setup for the entire industry, may be eliminated.

The pulp situation in British Columbia is not so encouraging. Reduction in the price of sulphite of five dollars a ton which went into effect some time ago has not improved conditions.

Orders have started to rise in the paper box line, usually a good barometer of general business.

Port Townsend Holds Tenth Birthday Party

J. D. Zellerbach presents service pins to 168 employees of the National Paper Products Company Division kraft mill

• Ten years ago in July the No. 1 machine in the new kraft pulp and board mill began producing test liner. In this decade the mill has operated steadily and has expanded through the addition of the large paper machine and the bag plant.

To mark the tenth anniversary a banquet was held on July 19th at the Townsend Golf Club and J. D. Zellerbach, executive vice-president of the Crown Zellerbach Corporation awarded service pins to 167 men and to one woman.

Two Port Townsend citizens were honored with ten year service pins for their efforts in influencing the company to build the mill at Port Townsend. The two honored guests were Dr. O. C. O'Rear and Dr. George Bangerter. These men together with E. A. Sims and the late James H. Coyne constituted the committee who originally presented the advantages of Port Townsend as a prospective mill location to the National Paper Products Company.

E. W. Erickson, resident manager acted as toastmaster and introduced Mr. Zellerbach who spoke briefly about the history of the mill before awarding the service pins. Mr. Zellerbach's talk is quoted below in part from the Port Townsend Leader:

• Mr. Zellerbach spoke highly of the Port Townsend plant in saying that in spite of present business conditions the mill here has maintained a better operating schedule than others.

He said this mill has maintained an operating schedule 10 to 20 per cent better than the industry generally during recent months. He gave credit for this showing to the sales force and to the operating force which has kept quality of products at a high standard.

He briefly outlined the recent financial report which showed the past fiscal year was the best in the company's existence. The first quarter of the year was "remarkably good," he said, but the second quarter was "not so good," and the third and fourth quarters "anything but good." He said this year so far shows no improvement over the last two quarters of the past fiscal year, but that improvement "seems to be in prospect, and we can look for improved business."

Now 8,300 Employees

• In showing the extent of the Crown Zellerbach organization Mr. Zellerbach said the corporation now has 8,300 employees and 23,000 stockholders, and the Port Townsend plant represents an investment of \$12,000 for each person on the payroll.

Then to show how well the employees have "stuck" with the company, he listed the number of service pin holders, including four with over 45 years' service, 11 with 40 years' service, 36 with 35

years' service, 99 with 30 years' service, 138 with 25 years' service, 249 with 20 years' service, 641 with 15 years' service, 1,074 with 10 years' service and 1,633 with five years' service.

"The Port Townsend record," he said, "is better than that of the corporation as a whole on a percentage basis. Out of 464 men in the mill here, 387, or over 83 per cent, hold service pins."

\$60,000 Monthly Payroll

• For June, 1933, just five years ago, the mill's payroll totaled \$41,000 and last month the payroll had jumped to \$60,000. On the present payroll there are 198 men who started work here when the mill began operating. At that time the average wage was 54 cents per hour, and those same men are now receiving an average of 83½ cents an hour, or an increase of 54 per cent.

In further pointing out that the mill has offered opportunities for advancement, Mr. Zellerbach said that of the 54 per cent wage increase for these men, 23 per cent was due to general wage increases throughout the industry, but 31 per cent was due to promotions received by the men in their work.

Permanency of employment here was indicated by figures he presented showing that 52½ per cent of the men on the payroll were on the payroll ten years ago.

He concluded his talk with the remark that these figures prove his father's "familv" idea of employment and employee recognition.

Service Awards

• One twenty-five year service pin was awarded to Dell Wollam, who started at the Antioch, California, mill in 1913, moved to Port Angeles in 1919 and to Port Townsend in 1928.

Fifteen year service pins were awarded to the following men: A. J. Bogan, Tony Angelo, C. J. Guntley, W. C. Hower, George Skinner, and Bart Montgomery.

Ten Year Pins

• These were followed by eighty-six ten-year service men:

Glenn D. Abraham and Albert Ammeter headed this list. Then there was D. E. Baker, L. G. Blankenship, Frank Burns, Clyde Boggs, John Boggs, Herbert Bromley, E. W. Burns, Manuel Cadero, Ernest L. Camfield, J. W. Colvin, Joseph Cotter, E. V. Coulter, Lee Davis, N. J. Davis, H. E. Durs, John A. Deskin, G. V. Emerson, L. R. Gardner, Thomas Geddes, Grant Geisinger, C. A. Gillette, Muriel Goforth, A. W. Haines, C. B. Harding, S. A. Howell, Lawrence Harney, H. M. Hinds, Vern Hodgdon, Charles Hollander, G. A. Hunt, Cliff Hess, J. R. Hostetter, John Jorgenson and J. H. Johnson.

Mike Korvel, Harlow LeMere, Ernest Lashua, Walter Lammers, Norman Luck, N. J. Lindh, A. H. Lloyd, W. L. Lupton, John Milroy, Harry Minaker, M. M. Morris, J. Q. Merrill, Frank Miller, C. V. Martin, L. S. McCurdy, F. B. McLarney, Loren Mosley, P. F. Mullaney, A. G. Ne-

bert, Ralph Pickett, E. A. Poe, George F. Pears, C. A. Pilcher, N. E. Rogers, H. A. Radley, O. O. Rice, W. E. Richardson, L. H. Scott, Dan Sakatos, L. F. Savage, I. W. Shaffer, Elisha Smith, E. V. Sullivan, Wm. Sullivan, Wm. Sweeney, Bert Tuttle, M. F. Thayer, Ole Tjema, J. L. VanValkenburg, F. W. Walsh, N. A. Wright, Dale Williams, J. W. Woodworth, A. H. Wright, N. A. Whitnack, I. R. Weber, Leonard Ziel, and H. H. Zeits.

The Five Year Men

• The following men received service pins marking five years of service:

Paul Addie, Morris Alness, A. F. Brunson, George Bertak, Harold Bjorgen, F. C. Brown, E. E. Bishop, George Blankenship, James Boggs, Russell Boles, M. D. Bright, J. E. Bloomingdale, Tony Cable, Merritt Calkins, H. J. Carroll, C. G. Chausse, Grant Coster, Frank Crutcher, Eugene Dale, Alfred DeLeo, Roy M. Ellis, J. A. Evans, George Ewing, Leon Hess, L. M. Higley, Jud Hathaway, J. K. Hoskins, G. T. Hunt, Hans Kuehn.

Maxwell Loomis, Sam Luck, Archie Lundstrom, George W. Lyons, Lloyd Ladue, Einer Malm, Dan Maroldo, Robert Marsh, Harold Martin, Lawrence Minish, Ralph Morris, Owen M. Maki, Edward Minnihan, Ruth E. McCloy, W. E. McMillen, Albert Nagel, W. E. Neville, E. C. O'Neill, Ted E. Olson, Reginald Osborne, R. L. Powers, Burdette Redding, Bud Richardson, Wm. Reeder, Robert Reid, W. C. Richter, Wm. Scott, John Shold, Milo Silva, Leonard Sporman, C. L. Stanton, Fred Steager, Henry Swanson, Elmer Seifert, W. H. Stanton, John Taylor, J. K. Thompson, Homer Tobin, Everett Ulrick, J. J. Wallimer, Win F. Williams, Perry Worley, Harold Woods, and Lawrence Zeits.

John Sherman Seeking Reelection

• John Sherman, resident vice-president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers on the Pacific Coast, has announced his candidacy for reelection to the Washington State house of representatives. For the past two years Mr. Sherman has represented the 24th district which includes the pulp and paper mill cities of Port Angeles, Port Townsend and Shelton in the counties of Clallam, Jefferson and Mason.

In announcing his decision to file for reelection Mr. Sherman stated he would fight for any sound plan to afford protection of the Pacific Coast industry against imports of pulp and paper.

Rayon Yarn Deliveries Jump in July

• Deliveries of rayon yarn by producers to consuming industries in July, were nearly double those of June, causing the stocks of rayon yarn in the hands of producers to drop to 3.1 months supply against 3.9 months supply at the end of June.

Western Paper Converting Opens L. A. Plant

• Western Paper Converting Company of Salem, Oregon, established a production division in Los Angeles which began operation July 15, according to an announcement by Lloyd Riches, vice-president and general manager of the company. The firm has maintained sales and warehouse division in this city for more than ten years. Frank E. Skrivanic and Jack London are in charge of sales for southern California.

The new plant is at 924 East Second Street. Glassine bags and all specialties will be manufactured at the new location. Additional equipment is to be added as production gets under way.

Trade Talk



of Those Who Sell Paper in the Western States

Savale Named Sales Manager of Geo. La Monte

● Victor N. Savale of San Francisco is leaving the coast to become general sales manager of Geo. La Monte & Sons, paper manufacturers of Nutley, N. J. Mr. Savale has represented La Monte in the West for 15 years. He is being succeeded by R. J. Dougan, out from the factory. Mr. Savale and Mr. Dougan in July were on a trip over the territory, from Seattle to Los Angeles. Geo. La Monte & Sons make safety papers only—bank checks and the like. Mr. Savale leaves Aug. 17.

Paper Man Is Amateur Fighter

● Amateur fights at the Olympic Auditorium, Los Angeles, June 27th, attracted a lot of folks from the branches there of Zellerbach Paper Company, Crown Willamette Paper Co., and Western Waxed Paper Company. One attraction was Bobby Munoz, Zellerbach stationery salesman, who was participant in the first bout of the evening. Another attraction was the appearance there of a four-piece orchestra from Zellerbach's.

The Zellerbach house organ, "Sales Ahead" says Munoz was a stationery salesman but he was far from stationery that night as he won his bout, which made it a perfect evening for all the paper people. Except that Bob got a black eye.

J. R. Coffman

● J. R. Coffman for thirty years active in trade association work and for a large part of this time up to five years ago in charge of the paper trades group in Los Angeles was stricken with a heart attack while returning home from a business trip to Bishop late last month and died instantly. Mr. Coffman is survived by his wife, Genevieve, and a grown daughter and son, and a brother Sam, who is now associated with the paper industry in Los Angeles.

Ross Back From Military Vacation

● Kenneth Ross of the Silklin Paper Corporation, southern California office, returned from a two weeks vacation at Monterey (or so Ken called it) officiating a company of rising young army officers. His group, 1st Platoon, Company E, won the silver cup for excellence of performance in military exercises. The men are high school and college boys attending Citizens Military Training Camp. Ken holds the rank of Captain gained during the World War overseas.

Paper Mill Men Set Hi-Jinks Date

● The Fourth Annual Invitational Golf Tournament and Hi-Jinks, which is tendered each year to the paper distributors of southern California by the Paper Mill Men's Club of Southern California, will be held Friday, October 7th at the Riviera Country Club, Santa Monica, California.

Arrangements have gone ahead smoothly and all indications are the forthcoming affair will be its traditional great success. The entire Riviera Country Club will be taken over by the group during the event with no other conflicting parties occurring at the same time.

The golf tournament will begin at twelve noon with an estimated turnout expected of 75 guests and members. During the afternoon the mighty contest between mill men and paper jobbers will occur on the baseball diamond for the southern league pennant. Horse shoes and tennis will also be available for those who wish to play.

Dinner will be served at seven in the banquet hall. Billiards, pool and other games will be available after the dinner and floor show have been completed.

This year's committee responsible for the party is composed of Charles Spies, Chairman, Tom Lyons, Vice Chairman, Louis Wanka, G. N. Madigan, A. A. Ernst, Kenneth R. Ross, W. A. McBride, Roy J. Gute, S. R. Whiting.

Wilkins Back on Job

● King Wilkins has returned to his post in the San Francisco headquarters of Zellerbach Paper Company after an illness. Mr. Wilkins is a well known member of the staff and is active in research work and is in charge of the Zellerbach sales school.

S. F. Paper Houses Settle Three Week Strike

● For three weeks only one San Francisco paper house could make a local truck delivery, because of a strike of CIO warehousemen. The strike was settled August 8 and business resumed.

Practically all the San Francisco houses could make delivery of only mill orders or of orders filled by their Los Angeles or other out-of-town branches. These mill orders and the orders from the out-of-town branches were handled from freight terminal to the customers by the A.F. of L. teamsters union, which did not strike in sympathy.

Commercial Paper Company signed with the warehousemen's union and was not struck.

Beaumer Representing Parker-Young

● P. L. Beaumer of San Francisco is now representing the Parker-Young Co. of Boston on the Pacific Coast. Mr. Beaumer formerly was with the Sacramento division of Blake, Moffitt & Towne. Parker-Young make sulphite grades. They have not been represented on the coast recently.

Paper Cups Advertise Golden Gate Fair

● First paper company to tie in with the Golden Gate International Exposition, San Francisco, 1939, publicity program is Zellerbach Paper Company, which has put out a line of paper cups advertising this coming World's Fair of the West. These are Lily-Tulip cups, in four sizes, bearing pictures of the Exposition City on Treasure Island, and are being sold by all the California divisions of Zellerbach. Designs were prepared by Zellerbach.



THE GOLDEN GATE International Exposition is being advertised by special paper cups distributed by the Zellerbach Paper Company.

Revised and New TAPPI Paper Testing Methods Now Available

● It is announced by B. W. Scribner, Chairman of the Paper Testing Committee of the Technical Association of the Pulp and Paper Industry, that several revised and new paper testing standards of the association are now available in printed form.

The revised methods are those for ash, mineral filler and mineral coating, and copper number. The revision of the methods for mineral components was necessitated by the introduction of the new filling materials, titanium pigments, zinc pigments, and calcium sulfite. The methods for mineral coating and mineral filler were combined into one method. The main change in the method for copper number was an extension of its scope to all papers except those containing zinc sulfide pigments.

The new methods are for alkali-staining property and for water absorptiveness of non-bibulous papers and paper boards. The former is used to find whether certain papers, such as those used as soap wrappers, will become unduly discolored when in contact with a material containing alkali. A quantitative test is obtained by comparing the color of an alkaline extract of the paper with the color of a bichromate-congo red solution of known strength. The water absorptiveness is for finding the absorptiveness of the area near the surface. It is based on the method of Cobb and Lowe, and consists in applying water to a definite area of the test specimen for a predetermined length of time

and weighing the specimen to find the amount of water absorbed.

The TAPPI methods are issued as separates and can be obtained from the association at 122 East 42nd Street, New York City, N. Y., for 25 cents each. A complete list of them can be obtained from the committee chairman at the National Bureau of Standards, Washington, D. C.

May and June Newsprint Production Statistics

● Production in Canada during May, 1938, amounted to 207,678 tons and shipments to 193,288 tons, according to the News Print Service Bureau. Production in the United States was 68,001 tons and shipments 66,197 tons, making a total United States and Canadian newsprint production of 275,679 tons and shipments of 259,485 tons. During May, 19,989 tons of newsprint were made in Newfoundland, so that the total North American production for the month amounted to 295,668 tons. Total production in May, 1937, was 419,429 tons.

The Canadian mills produced 417,418 tons less in the first five months in 1938 than in the first five months of 1937, which was a decrease of twenty-eight and three-tenths per cent. The output in the United States was 62,964 tons or sixteen and one-tenth per cent less than in the first five months of 1937, in Newfoundland 36,773 tons or twenty-four and eight-tenths per cent less, making a total decrease of 517,155 tons, or twenty-five and seven-tenths per cent.

Stock of newsprint paper at the end of May were reported at 189,008 tons for Canadian mills and 29,819 tons for United States mills, making a combined total of 218,827 tons compared with 202,633 tons on April 30, 1938.

● Production in Canada during June, 1938, amounted to 201,694 tons and shipments to 208,476 tons. Production in the United States was 65,382 tons and shipments 66,204 tons, making a total United States and Canadian newsprint production of 267,076 tons and shipments of 274,680 tons. During June, 20,189 tons of newsprint were made in Newfoundland, so that the total North American production for the month amounted to 287,265 tons. Total production in June, 1937, was 420,346 tons.

The Canadian mills produced 527,889 tons less in the first six months of 1938 than in the first six months of 1937, which was a decrease of twenty-nine and five-tenths per cent. The output in the United States was 76,082 tons or sixteen and two-tenths per cent less than in the first six months of 1937, in Newfoundland 46,265 tons or twenty-six per cent less, making a total decrease of 650,236 tons, or twenty-six and seven-tenths per cent.

Stocks of newsprint paper at the end of June were reported at 182,226 tons for Canadian mills and 28,997 tons for United States mills, making a combined total of 211,223 tons compared with 218,827 tons on May 31, 1938.



Norman Wilson Visits Coast

● San Francisco visitors in July were Norman Wilson of Erie, Pa., vice-president and general manager of Hammermill Paper Co., and W. S. Lucey of Hoquiam, manager of the Grays Harbor Division of Rayonier Incorporated.

Western Bag Installing New Equipment

● New equipment is being installed at the Western Transparent Bag Company, Inc., at 5333 South Riverside Drive, Los Angeles. The company recently chartered with capital of \$50,000 manufacturers glassine bags and containers. James E. Buley is named as one of incorporators of the new company.

Brenzel Visits San Francisco

● G. S. Brenzel, superintendent of the Union Bag and Paper Corporation, Los Angeles plant, went to San Francisco the latter part of July on business. He conferred with Howard Ruweler, head of the western division of the Cupples Company, sales representatives for the Union Bag and Paper Corporation.

Jaggards Vacation

● B. P. (Doc) Jaggard, San Francisco, and Mrs. Jaggard, vacationed in July at Pomin's on Lake Tahoe. Jaggard is with the Hammermill Paper Co. at San Francisco.



Our spirit of service is still animated by the record of our two hundred ninety-two Old Timers who have served the Company and the people of the Northwest for twenty-five years or longer. These Puget Power Pioneers have collectively spent more than 9,000 years in pushing the electric line down highways and by-ways to furnish excellent service at unusually low rates to the remotest areas in the operating territory.

PUGET SOUND POWER & LIGHT COMPANY

**PULP
BLEACHING
COMPANY**

**ORANGE
NEW JERSEY**

**CELLULOSE
PURIFICATION**

"NON-USERS
ARE THE
LOSERS"

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FINISH AND TRIM

"TRUE FOR TRIM"

Is a paramount feature of TENAX FELTS of which we are very proud.

Operating conditions today demand this quality more than ever and Superintendents have this assurance when they specify TENAX FELTS.

In specifying TENAX FELTS they know they will get Trim, True Running and Finish, coupled with *Low Cost Per Ton*.

"Non-Users Are the Losers"

LOCKPORT FELT COMPANY
NEWFANE, N. Y.

Pacific Coast Representative: ALAN C. DUNHAM, Portland, Ore.

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In your mill too—controlled application of chlorine and ammonia with W & T apparatus will successfully eliminate slime at a cost of from 1½ cents to 6 cents per ton of product. Research Publication #327 "Slime in Paper Mills—Its Origin and Prevention", reviews the evidence. Write for your copy today.

Stock losses—bacterial decomposition and reworking of stock
Lowered Quality—slime spots—pin holes—objectionable odors
Increased Costs—in water—heat—labor—chemicals
Maintenance Troubles—blinded wires—plugged felts
Frequent Clean-ups—slime breaks—poor sheet formation
Obstruction of Lines—stock and white water lines
Recirculation Difficulties—slime growths in recirculated systems
Mechanical Strain on felts and wires—shortened useful felt and wire life

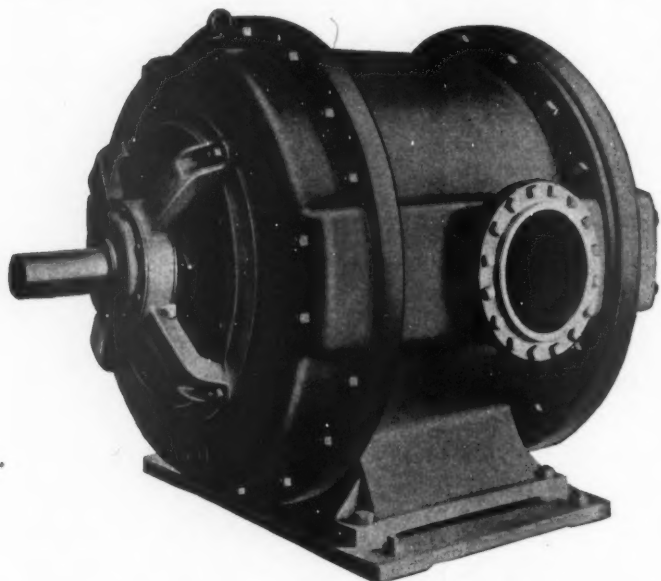
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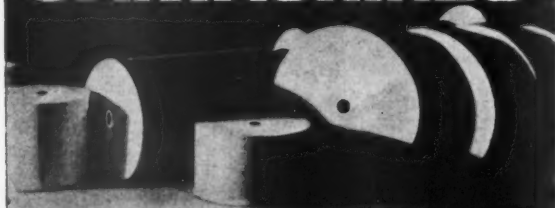
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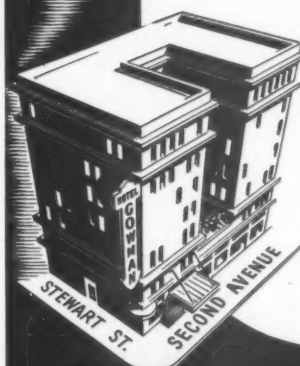
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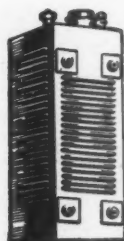
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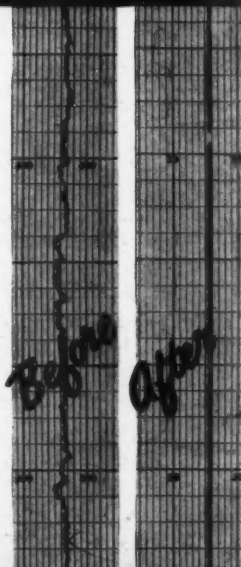
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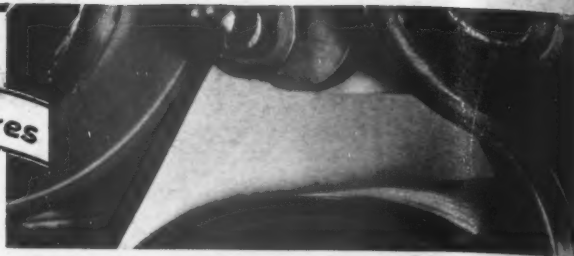
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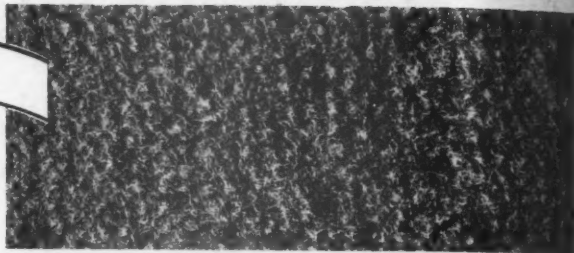


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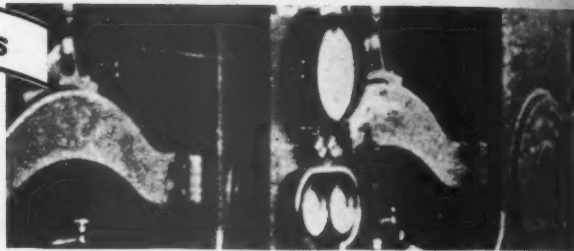
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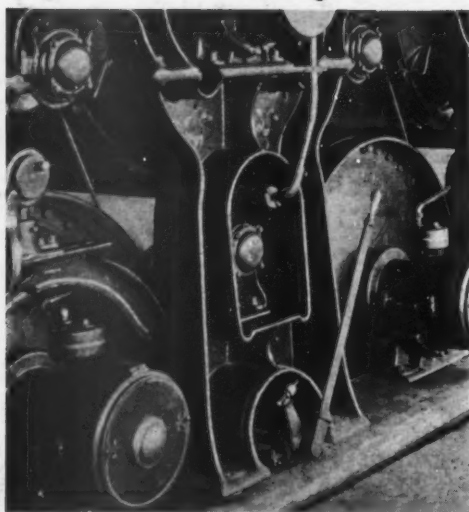
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